

EXHIBIT 9

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

In the Matter of

**CERTAIN COMPUTERS AND
COMPUTER PERIPHERAL DEVICE
AND COMPONENTS THEREOF AND
PRODUCTS CONTAINING SAME**

Inv. No. 337-TA-841

**ORDER NO. 23: ORDER CONSTRUING THE TERMS OF THE ASSERTED
CLAIMS OF THE PATENTS AT ISSUE**

(October 4, 2012)

I. INTRODUCTION

A *Markman* hearing was held August 9, 2012. Complainant Technology Properties Limited, LLC (“TPL”) and respondents Dell, Inc., Brother Industries, Ltd., Fujitsu Limited, Newegg Inc., Rosewill Inc., Seiko Epson Corporation, Acer, Inc., Canon Inc., Micron Technology, Inc., Lexar Media, Inc., Systemax Inc., HiTi Digital Inc., Shuttle Inc., Hewlett-Packard Co., and Kingston Technology, Inc. (collectively, “Respondents”) participated in the *Markman* hearing.

Prior to the hearing the parties filed opening and rebuttal claim construction briefs, establishing which terms required construing and offering various proposals for them. On August 17, 2012, TPL and Respondents submitted a Joint Proposed Claim Construction Chart (“Jt. Claim Chart”).

II. APPLICABLE LAW

Pursuant to the Commission’s Notice of Investigation, this investigation is a patent-based investigation. (*See* 77 Fed. Reg. 26041 (2012).) TPL asserts that Respondents infringe various

claims of the patents asserted in this investigation. A finding of infringement or non-infringement requires a two-step analytical approach. First, the asserted patent claims must be construed as a matter of law to determine their proper scope.¹ Claim interpretation is a question of law. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (*en banc*), *aff'd*, 517 U.S. 370 (1996); *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1455 (Fed. Cir. 1998). Second, a factual determination must be made as to whether the properly construed claims read on the accused devices. *Markman*, 52 F.3d at 976.

In construing claims, the ALJ should first look to intrinsic evidence, which consists of the language of the claims, the patent's specification, and the prosecution history, as such evidence "is the most significant source of the legally operative meaning of disputed claim language." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996); *see also Bell Atl. Network Servs., Inc. v. Covad Comm'n. Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The words of the claims "define the scope of the patented invention." *Id.* And, the claims themselves "provide substantial guidance as to the meaning of particular claim terms." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005), *cert. denied*, 546 U.S. 1170 (2006). It is essential to consider a claim as a whole when construing each term, because the context in which a term is used in a claim "can be highly instructive." *Id.* Claim terms are presumed to be used consistently throughout the patent, such that the usage of the term in one claim can often illuminate the meaning of the same term in other claims. *Research Plastics, Inc. v. Federal Pkg. Corp.*, 421 F.3d 1290, 1295 (Fed. Cir. 2005). In addition:

... in clarifying the meaning of claim terms, courts are free to use words that do not appear in the claim so long as the resulting claim interpretation ... accord[s]

¹ Only claim terms in controversy need to be construed, and only to the extent necessary to resolve the controversy. *Vanderlande Indus. Nederland BV v. Int'l Trade Comm'n.*, 366 F.3d 1311, 1323 (Fed. Cir. 2004); *Vivid Tech., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

with the words chosen by the patentee to stake out the boundary of the claimed property.

Pause Tech., Inc. v. TIVO, Inc., 419 F.3d 1326, 1333 (Fed. Cir. 2005).

Some claim terms do not have particular meaning in a field of art, in which case claim construction involves little more than applying the widely accepted meaning of commonly understood words. *Phillips*, 415 F.3d at 1314. Under such circumstances, a general purpose dictionary may be of use.² The presumption of ordinary meaning, however, will be “rebutted if the inventor has disavowed or disclaimed scope of coverage, by using words or expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.” *ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1091 (Fed. Cir. 2003).

Sometimes a claim term will have a specialized meaning in a field of art, in which case it is necessary to determine what a person of ordinary skill in that field of art would understand the disputed claim language to mean, viewing the claim terms in the context of the entire patent. *Phillips*, 415 F.3d at 1312-14; *Vitronics*, 90 F.3d at 1582. Under such circumstances, the ALJ must conduct an analysis of the words of the claims themselves, the patent specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, as well as the meaning of technical terms and the state of the art. *Id.*

Claim terms should generally be given their ordinary and customary meaning unless “1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.” *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). “To act as its own lexicographer, a patentee must ‘clearly set forth a definition of the disputed claim term . . .

² Use of a dictionary, however, may extend patent protection beyond that to which a patent should properly be afforded. There is also no guarantee that a term is used the same way in a treatise as it would be by a patentee. *Id.* at 1322.

.” *Id.* (quoting *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)). And “[w]here the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside . . . the patent,” even if the terms might otherwise be broad enough to cover that feature. *Id.* at 1366 (internal citation omitted). Thus, if a claim term is defined contrary to the meaning given to it by those of ordinary skill in the art, the specification must communicate a deliberate and clear preference for the alternate definition. *Kumar v. Ovonic Battery Co.*, 351 F.3d 1364, 1368 (Fed. Cir. 2003). In other words, the intrinsic evidence must “clearly set forth” or “clearly redefine” a claim term so as to put one reasonably skilled in the art on notice that the patentee intended to so redefine the claim term. *Bell Atl.*, 262 F.3d at 1268.

When the meaning of a claim term is uncertain, the specification is usually the first and best place to look, aside from the claim itself, in order to find that meaning. *Phillips*, 415 F.3d at 1315. The specification of a patent “acts as a dictionary” both “when it expressly defines terms used in the claims” and “when it defines terms by implication.” *Vitronics*, 90 F.3d at 1582. For example, the specification “may define claim terms by implication such that the meaning may be found in or ascertained by a reading of the patent documents.” *Phillips*, 415 F.3d at 1323. “The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.” *Id.* at 1316. However, as a general rule, particular examples or embodiments discussed in the specification are not to be read into the claims as limitations. *Markman*, 52 F.3d at 979.

The prosecution history “provides evidence of how the inventor and the PTO understood the patent.” *Phillips*, 415 F.3d at 1317. For example, the prosecution history may inform the meaning of the claim language by demonstrating how an inventor understood the invention and

whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it otherwise would be. *Vitronics*, 90 F.3d at 1582-83; *see also Chimie v. PPG Indus., Inc.*, 402 F.3d 1371, 1384 (Fed. Cir. 2005) (stating, “The purpose of consulting the prosecution history in construing a claim is to exclude any interpretation that was disclaimed during prosecution.”); *Microsoft Corp. v. Multi-tech Sys., Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004) (stating, “We have held that a statement made by the patentee during prosecution history of a patent in the same family as the patent-in-suit can operate as a disclaimer.”). The prosecution history includes the prior art cited, *Phillips*, 415 F.3d at 1317, as well as any reexamination of the patent. *Intermatic Inc. v. Lamson & Sessions Co.*, 273 F.3d 1355, 1367 (Fed. Cir. 2001).

Differences between claims may be helpful in understanding the meaning of claim terms. *Phillips*, 415 F.3d at 1314. A claim construction that gives meaning to all the terms of a claim is preferred over one that does not do so. *Merck & Co. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir.), *cert. denied*, 546 U.S. 972 (2005); *Alza Corp. v. Mylan Labs. Inc.*, 391 F.3d 1365, 1370 (Fed. Cir. 2004). In addition, the presence of a specific limitation in a dependent claim raises a presumption that the limitation is not present in the independent claim. *Phillips*, 415 F.3d at 1315. This presumption of claim differentiation is especially strong when the only difference between the independent and dependent claim is the limitation in dispute. *SunRace Roots Enter. Co., v. SRAM Corp.*, 336 F.3d 1298, 1303 (Fed. Cir. 2003). “[C]laim differentiation takes on relevance in the context of a claim construction that would render additional, or different, language in another independent claim superfluous.” *AllVoice Computing PLC v. Nuance Commc’ns, Inc.*, 504 F.3d 1236, 1247 (Fed. Cir. 2007).

Finally, when the intrinsic evidence does not establish the meaning of a claim, the ALJ may consider extrinsic evidence, *i.e.*, all evidence external to the patent and the prosecution history, including inventor testimony, expert testimony and learned treatises. *Phillips*, 415 F.3d at 1317. Extrinsic evidence may be helpful in explaining scientific principles, the meaning of technical terms, and terms of art. *Vitronics*, 90 F.3d at 1583; *Markman*, 52 F.3d at 980. However, the Federal Circuit has generally viewed extrinsic evidence as less reliable than the patent itself and its prosecution history in determining how to define claim terms. *Phillips*, 415 F.3d at 1318. With respect to expert witnesses, any testimony that is clearly at odds with the claim construction mandated by the claims themselves, the patent specification, and the prosecution history should be discounted. *Id.* at 1318.

If the meaning of a claim term remains ambiguous after a review of the intrinsic and extrinsic evidence, then the patent claims should be construed so as to maintain their validity. *Id.* at 1327. However, if the only reasonable interpretation renders a claim invalid, then the claim should be found invalid. *See Rhine v. Casio, Inc.*, 183 F.3d 1342, 1345 (Fed. Cir. 1999).

The claim terms construed in this Order are for the purposes of this Section 337 investigation. Hereafter, discovery and briefing in this Section 337 investigation shall be governed by this construction of the claim terms. All other claim terms shall be deemed as undisputed and shall be interpreted by the ALJ in accordance with “their ordinary meaning as viewed by one of ordinary skill in the art.” *See Apex*, 325 F.3d at 1373.

III. THE '424, '443 AND '847 PATENTS

A. Background and Claims

1. U.S. Patent No. 7,522,424

U.S. Patent No. 7,522,424 (“the '424 Patent”) is entitled “SmartConnect Universal Flash Media Card Adapters.” The '424 Patent issued on April 21, 2009. The named inventors are

Sreenath Mambakkam, Arockiyaswamy Venkidu, and Larry Jones. TPL asserted claims 25, 26, 28, and 29. Claims 25 and 28 are independent claims and claims 26 and 29 depend on claims 25 and 28 respectively. The asserted claims are (with disputed terms in bold):

25. Apparatus comprising:

- a housing having a port and a surface;
- an **interconnection means** having a plurality of **interconnection pins**;
- one or more sets of **contact pins mounted on said surface at locations adapted to interface with the electrical contacts of a corresponding one of a plurality of different types of memory media cards** when inserted into said port;
- a set of signal lines connected to said interconnection pins;
- means for identifying the type of memory card inserted into said port;**
- means for mapping power, ground or data signals between said interconnection pins and said one or more contact pins depending upon the identification of the type of memory card inserted into said port.**

26. Apparatus according to claim 25 where the means for mapping comprises a controller.

28. Apparatus comprising:

- a housing having a port and a surface;
- a plurality of sets of **contact pins mounted on said surface at locations adapted to interface with the electrical contacts of a corresponding one of a plurality of different type memory media cards** when inserted into said port;
- a set of signal lines connected to an **interconnection means**;
- means for identifying the type of memory card inserted into said port;**
- means for mapping power, ground or data signals between said interconnection means and said one or more contact pins depending upon the identification of the type of memory card inserted into said port.**

29. Apparatus according to claim 28 where said means for mapping comprises a controller.

2. U.S. Patent No. 7,295,443

U.S. Patent No. 7,295,443 (“the ’443 Patent”) is entitled “SmartConnect Universal Flash Media Card Adapters.” The ’443 Patent issued on November 27, 2007. The named inventors are Sreenath Mambakkam, Arockiyaswamy Venkidu, and Larry Jones. TPL asserted claims 1, 3, 4, 7, 9, 11, 12, and 14. Claims 1 and 9 are independent claims, claims 3, 4, and 7 depend on claim 1, and claims 11, 12, and 14 depend on claim 9. The asserted claims are (with disputed terms in bold):

1. A **multi-memory media adapter** comprising:

a first planar element having an upper surface and a lower surface, the first planar element comprising molded plastic;

a second planar element having an upper surface and a lower surface, the first planar element and the second planar element disposed such that a port is formed between the lower surface of the first planar element and the upper surface of the second planar element, the port capable of receiving a memory media card, the second planar element comprising molded plastic;

at least one set of contact pins protruding from the lower surface of the first planar element or the upper surface of the second planar element such that the at least one set of contact pins are disposed within the port, the at least one set of contact pins capable of contacting a set of memory media card contacts, wherein the at least one set of **contact pins are integrated within the molded plastic** of the first planar element or the second planar element; and

a controller chip **to map at least a subset of the at least one set of contact pins to a set of signal lines or power lines, based on an identified type of a memory media card.**

3. The multi-memory media adapter of claim 1 having a system connector surface-mounted thereon, the system connector electrically coupled to the at least one set of contact pins.

4. The multi-memory media adapter of claim 3 wherein the system connector is selected from the group comprising of a PCMCIA, USB, WiFi, Firewire, IDE, serial ATA connector, an IDE, and a CompactFlash connector.

7. The multi-memory media adapter of claim 1 having at least 18 contact pins configured to accommodate at least one of a group comprising, an xD, MMC/SD, Memory Stick, miniSD, RSMMC, and MS Duo.

9. A system comprising:

a **multi-memory media adapter** to read data from a plurality of memory media cards, the multi-memory media adapter having at least one port formed between an upper portion and a lower portion of the multi-memory media adapter, the port to receive a memory media card of the plurality of memory media cards;

a set of contact pins protruding from the upper portion or the lower portion, the set of contact pins to contact a set of memory media card contacts, wherein the set of **contact pins are integrated within molded plastic** of the upper portion or the lower portion; and

a controller **integrated into the multi-memory media adapter to map at least a subset of the set of contact pins to a set of signal lines or power lines, based on an identified type of the memory media card.**

11. The system of claim 9 further comprising a system connector, the system connector electrically coupled to the set of contact pins.

12. The system of claim 11 wherein the system connector is selected from the group comprising of a PCMCIA, USB, WiFi, Firewire, IDE, serial ATA connector, an IDE, and a CompactFlash connector.

14. The system of claim 9 having at least eighteen contact pins configured to accommodate at least one of a group comprising, an xD, MMC/SD, Memory Stick, miniSD, RSMMC, and MS Duo.

3. U.S. Patent No. 7,719,847

U.S. Patent No. 7,719,847 (“the ’847 Patent”) is entitled “SmartConnect Flash Card Adapter” issued on May 18, 2010, to Sreenath Mambakkam; Arockiyaswamy Venkidu; and Larry Jones. TPL has asserted Claims 1-3 of the ’847 patent. Claim 1 is an independent claim and claims 2 and 3 depend on claim 1. The asserted claims read as follow (with the disputed terms in bold):

1. Apparatus comprising:

a housing having a port and a surface;

a plurality of sets of **contact pins** mounted on said surface at locations adapted to interface with the electrical contacts **of a plurality of different type memory media cards** when inserted into said port;

a set of signal lines connected to a controller, the number of signal lines being fewer than the number of **contact pins**;

the signal lines located between the controller and an **interconnection means**;

said interconnection means being located between the signal lines and the plurality of sets of contact connecting said signal lines to said one or more **contact pins**; and

means for mapping power, ground or data signals between said signal lines and said contact pins depending upon the identification of the type of memory card inserted into said port;

wherein the means for mapping comprises a controller.

2. Apparatus according to claim 1 where said controller comprises **means for determining the type of memory card inserted into said port.**

3. Apparatus according to claim 1 wherein said interconnection means is selected from a group consisting of simple wires, flat cables, printed circuit board interconnections, or wiring traces.

B. Disputed Claim Terms

1. **“contact pins mounted on said surface at locations adapted to interface with the electrical contacts ...of memory media cards”³ (‘424 Patent claim 25 and 28, ‘847 Patent claim 1)**

TPL’s Proposal	Respondents’ Proposal
<p>Plain and ordinary meaning, no construction necessary</p> <p>In the alternative, if construed: contact pins positioned on said surface arranged to provide electrical connection with one of a plurality of different types of multimedia memory cards</p> <p>If the phrase “contact pins mounted on said surface...” is construed, “contact pins” should be construed as: “conductive</p>	<p>Contact pins that are affixed to a surface of the housing directly under or over the electrical contacts of cards when the cards are inserted into the port. A single set of contact pins interfaces with different types of memory media cards.</p>

³ The parties have agreed that this claim term should be construed consistently across all three claims. (ROB at 31, note 5.)

structures capable of contacting a set of memory media cards.	
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TPL argues that these phrases are readily comprehensible and do not require construction, but to the extent that the ALJ finds that construction is required, TPL argues that its construction is supported by the specification and the claims. (COB at 37-38.) TPL argues that Respondents' proposed construction drastically deviates from the claim language and the specification by improperly changing "mounted" to "affixed" and requiring that the contact pins be directly over or under the electrical contacts of the cards. (COB at 28-39.) TPL further argues that, to the extent that the claim term is construed, the claim term "contact pins" should also be construed to mean "conductive structures capable of contacting a set of memory media cards." (COB at 39-40.) TPL argues that its construction is supported by the specification of the '847, the '424 and the '443 Patents. (COB at 39.)

Respondents argue that their construction is supported by the specification, namely Figure 3 and the prosecution histories of the '847 and the '443 Patents. (ROB at 31-34.) Specifically, Respondents argue that Figure 3 of the specification "shows contact pins (315) that project perpendicularly from the surface of the planar elements (310, 320) of the adapter, and that are located directly under or over the electrical contacts of cards when the cards are inserted into the port" and, further, that the specification criticizes "floating pins." (ROB at 31-32.)

As for the prosecution history, Respondents cite to the prosecution history of the '847 Patent in support of their negative limitation, *i.e.*, "[a] single set of contact pins interfaces with different types of memory media cards." Respondents argue that because the applicant averred that "the claimed invention [] requires that a single set of contact pins interface with different types of memory media cards" then the term "must be construed to exclude contact pins that interface with only a single type of memory card." (ROB at 32.) Respondents further cite to the

prosecution history of the '443 Patent, which Respondents argue is relevant to the '424 Patent "[b]ecause they relate to the configuration of the contact pins," to argue that the term excludes contact pins that only interface with a single type of memory card and for expressly disclaiming contact pins that are "sitting on" a surface. (ROB at 32-33.)

Respondents further argue that TPL's construction contradicts the prosecution history of the '443 Patent since "positioned on" is no different from "sitting on" and fails to require that the contact pins are shared between different types of memory cards.

The ALJ finds that the claim term "contact pins mounted on said surface at locations adapted to interface with the electrical contacts ...of memory media cards" means contact pins mounted on said surface arranged to provide electrical connection with one of a plurality of different types of memory media cards. The claim language supports such a construction as it describes contact pins that are arranged to "interface with the electrical contacts" of a plurality of memory media cards. ('424 Patent, claim 25, claim 28; 847, claim 1.) The specification describes contact pins that "electrically couple to corresponding contacts on a memory media card inserted into [the] port." ('424 Patent at 5:21-23; '847 Patent at 5:8-10.)

The ALJ further finds that the specific term "mounted" is sufficient and need not be construed as either TPL or Respondents have proposed. The specification uses the term "mounted" throughout and, as used therein, does not alter the plain and ordinary meaning of the claim term. For example, the specification describes a standard connector "mounted" on to the planar element:

Adapter 300 includes planar element 330 that has standard connector 340 **mounted thereon**. Planar element 330 is adjacent to bottom planar element 320. Standard connector 340, which may be for example, a compact flash, PCMCIA, USB, or serial ATA connector is **surface-mounted** to planar element 330. Interconnects 312 that electrically connect the standard connector 340 to contact pins 315 are also located on planar element 330. The adapter connects the proper

pin from the contact pins to planar element 330. Simple wiring such as individual wires, flat cables, printed-circuit board (PCB), or wiring traces can be used. In accordance with an embodiment of the present invention, the need for a straddle-mounted PCB, and its associated manufacturing costs and complexity, is eliminated. Moreover, by eliminating the layers of a **straddle-mount** configuration, registration accuracy is improved. For one embodiment, a single PCB may comprise bottom planar element 320 and planar element 330.

(‘424 Patent at 5:37-53 (emphasis added); *see also* ‘847 Patent at 5:24-40.) While the specification describes different ways of mounting, it does not ultimately alter the plain and ordinary meaning of the word. Thus, reading the claims in light of the specification, it is clear that the plain and ordinary meaning of “mounted” needs no further construction. Therefore, the ALJ finds that the claim term means: contact pins mounted on said surface arranged to provide electrical connection with one of a plurality of different types of memory media cards.

The ALJ further agrees with TPL that “contact pins” means: conductive structures capable of contacting a set of memory media card contacts. As set forth *supra*, the specification describes contact pins that “electrically couple to corresponding contacts on a memory media card inserted into [the] port.” (‘424 Patent at 5:21-23; ‘847 Patent at 5:8-10.) The specification further describes “angled” or “curved” contact pins. (‘424 Patent at 5:30-36; ‘847 Patent at 5:20-23.) Respondents’ attempts to limit “contact pins that project perpendicularly from the surface of the planar elements” would improperly limit the claims to a preferred embodiment. *Teleflex, Inc. v. Ficos N. Am. Corp.*, 299 F.3d 1313, 1328 (Fed. Cir. 2002) (“We have ‘cautioned against limiting the claimed invention to preferred embodiments or specific examples in the specification.’”). Therefore, the ALJ finds that “contact pins” means conductive structures capable of contacting a set of memory media card contacts.

As for Respondents’ remaining arguments, the ALJ finds those unpersuasive. First, as noted above, Respondents improperly limit the claim term to a preferred embodiment. *Teleflex,*

299 F.3d at 1328. The specification makes clear that Figure 3 is only one embodiment of the invention and, further, the specification repeatedly discloses other alternatives and embodiments.

Furthermore, Respondents' construction directly contradicts the specification which describes contact pins that are angled or curved. (*See* '424 Patent at 5:30-36; '847 Patent at 5:24-40.) As for Respondents' proposed limitation that "[a] single set of contact pins interfaces with different types of memory media cards," the ALJ also finds Respondents' arguments unpersuasive. First, such a construction clearly contradicts the language of the claims 25 and 28 of the '424 Patent and claim 1 of the '847 Patent:

[O]ne or more sets of contact pins mounted on said surface at locations adapted to interface with the electrical contacts of a corresponding one of a plurality of different types of memory media cards when inserted into said port ('424 Patent, claim 25)

[A] plurality of sets of contact pins mounted on said surface at locations adapted to interface with the electrical contacts of a corresponding one of a plurality of different types of memory media cards when inserted into said port ('424 Patent, claim 28)

[A] plurality of sets of contact pins mounted on said surface at locations adapted to interface with the electrical contacts of a plurality of different type memory media cards when inserted into said port ('847 Patent, claim 1)

(('424 Patent, claims 25 and 28; '847 Patent claim 1)(emphasis added).) The claim language claims "one or more" or "a plurality" of contact pins and limiting the phrase to a "single set of contact pins" makes little sense when read in the context of the claims. The ALJ further finds Respondents' reliance on the prosecution history to be unpersuasive as well. Respondents argue that the following statements from the applicant to overcome prior art references during the prosecution of the '847 Patent and the '443 Patent further limit the claim⁴:

⁴ Respondents assert that the prosecution history of the '443 Patent is relevant to the meaning of this claim term in the '424 Patent because they cover the same subject matter as the claim language at issue—they relate to the configuration of contact pins. (ROB at 33.) TPL does not dispute this.

[T]he claimed invention [] requires that a single set of contact pins interface with different types of memory media cards. ('847 Patent, Prosecution History)

Hung-Ju suggests using different sets of contact pins for different types of memory cards. ('443 Patent, Prosecution History)

(ROB at 33.) The ALJ finds that the applicant's statements do not rise to a "clear and unambiguous disavowal" such that prosecution history would limit the claims. *Cordis Corp. v. Boston Sci. Corp.*, 561 F.3d 1319, 1329 (Fed. Cir. 2009) ("A disclaimer must be "clear and unmistakable," and unclear prosecution history cannot be used to limit claims."). This is especially true in light of the actual language of the claims, *i.e.*, "one or more" and "a plurality" of sets of contact pins.

Therefore, the ALJ finds the claim term means contact pins mounted on said surface arranged to provide electrical connection with one of a plurality of different types of memory media cards. The ALJ also finds that "contact pins" means conductive structures capable of contacting a set of memory media card contacts.

2. "interconnection means"/ "interconnection pins"

TPL's Proposal	Respondents' Proposal
<p><u>"interconnection means":</u> Subject to 35 U.S.C. §112 ¶6.</p> <p><u>Function:</u> "connecting the contact pins to a set of signal lines"</p> <p><u>Structure for the '424 Patent includes at least the following:</u> Fig. 2, item 212; 2:8-31; Fig. 3, item 312; 5:37-53; Fig. 5; 6:32-35, claims 25 and 28; and equivalent structures</p> <p><u>Structure for the '847 Patent includes at least the following:</u> Fig. 2, item 212; 1:62-2:18; Fig. 3, item 312; 5:23-40; Fig. 5; 6:19-22; claims 1 and 3; and equivalent</p>	<p><u>"interconnection means":</u> Interconnection pins</p> <p><u>"interconnection pins":</u> Conductive pins separate from the contact pins</p>

structures	
“interconnection pins”: Plain and ordinary meaning, no construction necessary.	
In the alternative, if construed: “Conductive structure that connect the contact pins to a set of signal lines”	

TPL argues that “interconnection means” is subject to 35 U.S.C. §112 ¶6 because it contains the word “means.” (COB at 10.) TPL argues that the function is “connecting contact pins to a set of signal lines” and cites the following claim language to support its construction:

... plurality of **sets of contact pins** ...
the **signal lines** located **between the controller and an interconnection means**;
said **interconnection means** being located between the signal lines and the plurality of sets of contact **connecting said signal lines to said one or more contact pins** ...

‘847 patent (Ex. D), cl. 1.

... an **interconnection means** having a plurality of **interconnection pins**;
one or more sets of contact pins ...
a set of signal lines connected to said interconnection pins ...
means for **mapping** ... **data signals between said interconnection pins and said one or more contact pins** ...

‘424 patent (Ex. C), cl. 25.

... a plurality of sets of **contact pins** ...
a set of **signal lines** connected to an interconnection means ...
means for **mapping** ... **data signals between said interconnection means and said one or more contact pins** ...

Id. at cl. 28

(COB at 10-11.) TPL then argues that certain figures, portions of the specification and the claims disclose the corresponding structure. (COB at 11-14.) TPL argues that Respondents’

proposed construction is incorrect because it improperly limits “interconnection means” to “interconnection pins,” which would contradict claim 3 of the ‘847 Patent. (COB at 14.)

Respondents argue that “interconnection means” should be construed as “interconnection pins.” (ROB at 55.) Respondents cite the claim language in support of their construction, namely claim 25. (*Id.*) Respondents further argue that the interconnection pins must be separate from the contact pins since the claims require that the signal lines be mapped between the two. (ROB at 55.)

Respondents argue that “interconnection means” is not a means-plus-function claim because the claims do not define a function and because claim 25 includes a recitation of structure. (ROB at 54.) Respondents further argue that, even assuming “interconnection means” is a means-plus-function claim, TPL’s proposed construction is incorrect since the function is not found in the claims and the corresponding structure does not perform the function. (ROB at 54-55.) Respondents further argue that TPL’s proposed limitation contradicts the intrinsic evidence.

The ALJ finds that “interconnection means” is not a means plus function claim. TPL’s construction of this term under Section 112, ¶ 6 fails because (1) the claims sufficiently recite either a structure or location; (2) the function cited by TPL cannot be found in the claims and (3) none of the structures cited by TPL performs the function of “connecting the contact pins to a set of signal lines.”

The claimed function cited by TPL, namely “connecting the contact pins to a set of signal lines” is not in the claims of the ‘424 Patent. *JVW Enters. v. Interact Accessories, Inc.*, 424 F.3d 1324, 1331 (Fed. Cir. 2005) (“a court may not construe a means-plus-function limitation by adopting a function different from that explicitly recited in the claim”). In fact, the phrase “connecting the contact pins to a set of signal lines” does not appear anywhere in claims 25 or 28

of the '424 Patent. TPL proposed function appears to be a collection of selected portions of different limitations from claims 25 and 28 of the '424 Patent. The term "interconnection means" is used in the first limitation of claim 25 and contains no functional language: "an interconnection means having a plurality of interconnection pins." ('424 Patent, claim 25.) The remaining excerpts from claim 25 that TPL relies upon refer to those "interconnection pins," not the "interconnection means." Moreover, the only functional language that TPL cites in this claim is the phrase "mapping power, ground or data signals between said interconnection pins and said one or more contact pins." However, this phrase relates to the separate means-plus-function term "means for mapping." Thus, the phrase relied upon by TPL relates to a different claim term and, further, recites a different function, namely mapping signals between the interconnection pins and the contact pins, not "connecting the contact pins to a set of signal lines."

Similarly, the claimed function appears nowhere in claim 28, which includes a "means for mapping" limitation akin to the one found in claim 25 ("mapping power, ground or data signals between said interconnection means and said one or more contact pins"). Again, this phrase requires mapping signals between the "interconnection means" and the contact pins and not "connecting the contact pins to a set of signal lines." TPL's proposed function finds no support in either claim 25 or 28 of the '424 Patent.

While claim 1 of the '847 Patent does recite "connecting said signal lines to said one or more contact pins," the same claim language relied upon by TPL also discloses the location of "interconnection means":

said interconnection means being located between the signal lines and the plurality of sets of contact connecting said signal lines to said one or more contact pins...

(‘847 Patent at 8:43-45.) The inclusion of a description of location weighs against construing this term as a means-plus-function limitation. *See Cole v. Kimberly-Clark Corp.*, 102 F.3d 524, 531 (Fed. Cir. 1996) (holding that the term “perforation means” was not a mean-plus-function limitation because “[t]he claim describes not only the structure that supports the tearing function, but also its location”); *Evirco Corp. v. Clesta Cleanroom, Inc.*, 209 F.3d 1360, 1365 (Fed. Cir. 2000) (“Because the claims recite sufficient structure, including details about the location and formational details about the second baffle, this court holds that the district court erred in construing the ‘second baffle means’ as a mean-plus-function claim element under 112, ¶ 6.”).

Furthermore, the ALJ finds that TPL failed to identify a structure that performs the proposed function. The portions of the specification cited by TPL fail to disclose a structure that “connect[s] the contact pins to a set of signal lines.” The block of text related to Figure 2 describes prior art –a contemporary “standard commercial product.” (‘424 Patent, 2:8-31.) TPL’s citation to the description of Figure 3 also fails to identify a structure that “connect[s] the contact pins to a set of signal lines.” Rather, the specification describes “[i]nterconnects (312) that electrically connect the *standard connector 340* [not the signal lines] to contact pins 315 and the adapter “connects the proper pin from the contact pins to the planar element.” (‘424 Patent at 5:42-47; *see also* ‘847 Patent, 5:29-34) (emphasis added). As for Figure 5, the specification states that it is a table of pin mappings.” (‘424 Patent at 6:32-35, ‘847 Patent at 6:19.) Thus, the blocks of text cited by TPL fail to disclose any structure corresponding to the supposed function of the “interconnection means.”

Thus, TPL fails to identify any corresponding structure in either the ‘424 Patent or the ‘847 Patent that performs the function of “connecting contact pins to a set of signal lines.”

Therefore, the ALJ finds that “interconnection means” is not a means-plus-function claim for either the ‘424 Patent or the ‘847 Patent.

The ALJ finds that “interconnection means” should be construed to mean “conductive structures separate from contact pins.”⁵ The specification supports such a construction as it describes “[i]nterconnects 312 that *electrically connect* the standard connector 340 to contact pins 315.” (‘424 Patent at 42-43; ‘847 Patent at 5:29-30) (emphasis added). The claim language in both the ‘424 Patent and the ‘847 Patent also support such a construction. Claims 25 and 28 clearly indicate that the “interconnection means” is a “separate and distinct” structure from the connection pin. Claims 25 and 28 require a “means for mapping” between “interconnection pins/means” and contact pins. (‘424 Patent claim 25 and 28.) Thus, in order to map signals between “interconnection pins/means” and contact pins, “interconnection pins/means” and contact pins must be separate and distinct structures. Similarly, claim 1 of the ‘847 Patent claims an “interconnection means” that “connect[s] said signal lines to one or more contact pins.”

The ALJ finds Respondents’ proposed construction to be too limiting. While claim 25 of the ‘424 Patent identifies “interconnection means having a plurality of interconnection pins,” the ALJ finds nothing that would require limiting the definition of “interconnection means” to “interconnection pins.” Rather, the ALJ’s construction, “conductive structures separate from contact pins” would include “interconnection pins.” The ALJ finds that the identification of “interconnection pins” in claim 25 means that the “interconnection means” must have “interconnection pins” for claim 25, but does not similarly limit “interconnection means” to “interconnection pins” in claim 28. Indeed, had the patentee intended to limit the “interconnection means” in claim 28 to “interconnection pins” it easily could have done so as it

⁵ The parties have agreed to construe the claim term consistently across all claims.

did in claim 25. Furthermore, there is nothing in claim 1 of the '847 Patent (as there was in claim 25 of the '424 Patent) that would support limiting "interconnection means" to "interconnection pins." Indeed, as TPL correctly notes, claim 3 states that "said interconnection means is selected from a group consisting of simple wires, flat cables, printed circuit board interconnections, or wiring traces." The ALJ's construction, "conductive structures separate from the contact pins" would include the structures set forth in claim 25 of the '424 Patent and claim 3 of the '847 Patent.

The ALJ further finds that "interconnection pins" means "conductive pins separate from the contact pins." The ALJ finds TPL's proposed construction, "conductive structures that connect the contact pins to a set of signal lines," to be too broad. The claims specifically call for pins and TPL has failed to point to anything in the specification or the claims that would indicate that "pins" in "interconnection pins" should be given anything but its plain and ordinary meaning. Therefore, the ALJ finds that "interconnection pins" means "conductive pins separate from the contact pins."

3. "contact pins are integrated within [the] molded plastic"

TPL's Proposal	Respondents' Proposal
<p>Plain and ordinary meaning, no construction necessary</p> <p>In the alternative, if construed: contact pins are at least partially enclosed by molded plastic</p>	<p>Contact pins that are embedded within the upper or lower portion, each of which is made of molded plastic. The term "contact pins" cannot extend to either pins that sit on the exterior or interior surfaces of a housing or to floating pins</p>

TPL argues that the claim term does not need construing as it is readily comprehensible and the plain and ordinary meaning is sufficient. (COB at 33.) However, to the extent that the claim term needs to be construed, it should mean "contact pins that are partially enclosed by molded plastic." (COB at 34.) TPL argues that Respondents' proposed construction is incorrect

since it injects the requirement that both the upper and lower portion of the adapter be made of molded plastic, which is not required by claim 9; claim 1 does not claim an “upper” or “lower” portion; and it improperly injects negative limitations into the claim. (COB at 34.)

Respondents argue that the specification teaches away from floating contact pins found in the prior art and that the prosecution history contains an express disclaimer of such pins. (ROB at 26.) The specification specifically states that the alleged invention “provide[s] an adapter card with contact pins that retain their resiliency to a greater degree than floating contact pins” and that the contact pins “are less likely to be damaged upon removal of the memory card.” (ROB at 27.) Respondents further argue that the applicant expressly disclaimed “floating” pins during the prosecution of the ‘443 Patent. (ROB at 28.) The Examiner rejected all pending claims as being anticipated by prior art, Hung-Ju, which the Examiner found disclosed contact pins integrated within molded plastic. (ROB at 28-29.) In response, the Applicant stated that the contact pins of Hung-Ju

[a]re of a floating structure sitting on an exterior or interior surface of the upper and lower frames 102 rather than being “integrated within” the two planar elements, as recited in Applicants independent claims 1 and 12.

(ROB at 29 (citing prosecution history of the ‘443 Patent.)) Thus, Respondents argue that “the Applicant express disclaimed from the meaning of ‘integrated within’ any contact pins that are a ‘floating structure sitting on the exterior or interior surface’ of the housing like those disclosed in Hung-Ju.” (ROB at 29.) Respondents further argue that TPL’s construction contradicts the intrinsic evidence because it does not exclude the floating contact pins of the prior art and it is inconsistent with the description of contact pins in the specification. (ROB at 30.)

The ALJ finds that the term “contact pins integrated within [the] molded plastic” means “contact pins embedded within the molded plastic.” The claim language and the specification

support such a construction. First, the claim language clearly states that the contact pins are “integrated *within*” (emphasis added) molded plastic, which implies that the contact pins are more than simply sitting on the exterior or interior surface of the molded plastic. Furthermore, the specification describes the contact pins as being embedded in the molded plastic:

For an embodiment in which the planar elements 310 and 320 are formed from molded plastic, contact pin sets 315 may be formed from injected contacts with protruding pins. This provides a more robust contact pin than the floating contact pins of the prior art, thereby lessening the likelihood that the resiliency of the contact pin will be reduced to the point that the pin no longer contacts the inserted memory media card. Alternatively, or additionally, the contact pins may be angled or shaped such that damage due to the abrupt removal of an improperly (or properly) inserted card is reduced or eliminated. For example the terminal end of the contact pin may be angled or curved toward the planar surface from which the contact pin protrudes, or may be spherically shaped.

* * *

Further, by embedding the contacts in a plastic injection, such problems as metal fatigue, travel, etc., can be controlled much better, improving dramatically the life-cycle time for the port side connection.

(’443 Patent at 5:24-37 and 7:67-8:3.) Therefore, the ALJ finds that this claim term means “contact pins embedded within molded plastic.”

The ALJ finds neither TPL’s or Respondents’ proposed construction acceptable. TPL cited no support in the claim language, the specification or the prosecution history for its construction that the contact pins be “partially enclosed.” As for Respondents’ construction, the ALJ disagrees that the specification teaches away from and the prosecution history disclaims floating pins. While the specification does tout the advantages of the present invention of using “integrated” contact pins over floating pins, the ALJ finds that it does not rise to the level of a clear disavowal as asserted by Respondents. *Thorner*, 669 at 1366 (citations omitted) (“Mere criticism of a particular embodiment encompassed in the plain meaning of a claim term is not

sufficient to rise to the level of clear disavowal.”) Similarly, in distinguishing the present invention over Hung-Ju, the ALJ finds that the Applicant’s statement does not rise to the level of a “clear disavowal”. *Cordis Corp. v. Boston Sci. Corp.*, 561 F.3d 1319, 1329 (Fed. Cir. 2009) (“A disclaimer must be “clear and unmistakable,” and unclear prosecution history cannot be used to limit claims.”) Furthermore, the ALJ finds Respondents’ negative limitations to be redundant of the ALJ’s construction as contact pins that are “embedded within” molded plastic cannot extend to pins that sit on surfaces.

4. “integrated into the multi-memory adapter”

TPL’s Proposal	Respondents’ Proposal
<p>This term requires not construction</p> <p>In the alternative, if construed, the plain and ordinary meaning of the claim term is: contained in the multi-memory media adapter</p>	<p>Embedded into the molded plastic of the adapter</p>

TPL argues that the claim term need not be construed as it is readily comprehensible. (COB at 40.) TPL argues that if the claim term is construed, then it means contained in the multi-memory media adapter. (COB at 40.) TPL argues that the specification supports its construction because it “states that in one embodiment the controller chip may be ‘integrated into the adapter rendering the adapter a complete card reader.[sic.] That is, the adapter becomes a complete card reader because it contains the controller chip.” (COB at 41.) TPL further argues that Respondents’ construction is wrong since it requires that the controller chip be integrated into molded plastic, which is not required by either the claims or the specification. (COB at 41.)

Respondents argue that the claim term means embedded into the molded plastic of the adapter. Respondents argue that the term “integrated” should be interpreted to be consistent with across all of the claim terms in the same patent and, therefore, “integrated” means “embedded.”

(ROB at 35.) Respondents argue that the specification supports its construction because it describes an adapter formed from a single piece of molded plastic “with the controller chip and associated memory device (e.g. ROM) embedded into the molded plastic.” (ROB at 35.)

The ALJ finds that “integrated within the multi-memory media adapter” means embedded in the multi-memory media adapter. As Respondents correctly note, the Federal Circuit has held that claim terms should be construed consistently across limitations and claims within the same patent, absent any evidence to the contrary. *Southwall Techs., Inc. v. Cardinal IG, Co.*, 54 F.3d 1570, 1578-79 (Fed. Cir. 1995). The ALJ construed “integrated” in the previous section to mean “embedded” and there is no evidence to that the claim term should not be given the same meaning in the context of this claim term. Therefore, the ALJ will construe “integrated” to mean “embedded.”

However, the ALJ rejects Respondents’ efforts to read additional limitations into the claim. This claim element uses “integrated” (or “embedded”) very broadly. Thus, the ALJ finds that the controller need not be embedded in molded plastic, but need only be embedded in the multi-memory media adapter as required by the claim language. First, there is no such requirement in the explicit language of the claims. Unlike claim 1 where the claims explicitly called for “molded plastic” for both planar elements, the only reference to “molded plastic” in claim 9 is “wherein the set of contact pins are integrated within the molded plastic of the upper portion or the lower portion.” (‘443 Patent, claim 9; *see also* claim 1.) In other words, only the upper portion or the lower portion that contains the embedded contact pins needs to be formed of molded plastic—there is nothing in claim 9 that requires the multi-memory media adapter to be formed of molded plastic. Second, while the specification does describe one embodiment where the controller is embedded in molded plastic, it is improper to limit the claim terms to a single

embodiment. *Teleflex, Inc.*, 299 F.3d at 1328. Therefore, the ALJ finds that “integrated into the multi-memory media adapter” means embedded in the multi-memory media adapter.

The ALJ finds TPL’s arguments unpersuasive. Specifically, the portion of the specification cited by TPL, namely “the controller and associated memory device are integrated into the adapter rendering the adapter a complete card reader,” fails to support its proposed construction. TPL fails to explain how that cited portion supports its construction of “contained in.” Furthermore, TPL fails to explain how or why the ALJ should construe “integrated” to have two separate meanings across claims (claim 1 and 9) and within the same claim (“contact pins integrated with molded plastic” and “a controller integrated into the multi-memory media adapter”).

Therefore, the ALJ finds that “integrated into the multi-memory media adapter” means embedded in the multi-memory media adapter.

5. **“to map at least a subset of the at least one set of contact pins to a set of signal lines or power lines, based on an identified type of the memory media card” (‘443 patent, cl. 1)/“to map at least a subset of contact pins to a set of signal lines or power lines based on an identified type [of] the memory media card” (‘443 patent, cl. 9)**

TPL’s Proposal	Respondents’ Proposal
<p>Plain and ordinary meaning, no construction necessary.</p> <p>In the alternative, if construed:</p> <p>“to assign a group of contact pins to power, ground, or data signal lines based on type of memory media card inserted”</p>	<p>To selectively connect at least one contact pin to one of two or more different signal lines or power lines based upon the type of memory media card identified by the controller. At least one set of contact pins is used for different types of memory cards.</p>

Respondents argue that this claim term “unequivocally refers to a dynamic selection and subsequent connection of one of multiple signal lines or power lines to a single contact pin, based upon the specific type of memory inserted into the slot and identified by the controller.”

(ROB at 14.) Specifically, Respondents contend that mapping “cannot simply mean a passive, pre-selected, fixed assignment of signal lines or power lines to various pins because that is exactly what the Applicant said it did *not* mean during prosecution to overcome the prior art.”

(ROB at 14 (emphasis in the original).)

Respondents make three main arguments in support of their construction. First, Respondents argue that the claim language supports their construction because the claim language requires that the controller perform the mapping based on the identity of the memory card. (ROB at 14.) Respondents assert that under the claim language, “the controller first identifies what type of card is inserted into the slot, and then selectively connects a contact pin to one of multiple signal lines or power lines depending upon the type of card identified.” (ROB at 15.) Respondents contend that this language requires that “[t]he contact pins *cannot* be passively assigned or fixed to signal lines or power lines such that a single contact pin is always connected to the same line....” (ROB at 15 (emphasis in original).) Second, Respondents argue that the specification provides little guidance because the specification discusses only that the controller can “differentiat[e] pin configurations” and does not discuss mapping. (ROB at 15-16.) Finally, Respondents argue (and rely most heavily on) the prosecution history. They argue that during the prosecution, Applicants explained that the prior art, in contrast to the alleged inventions claimed in the asserted patents, “utilizes a different set of contact pins for each type of memory card (i.e., no shared pins), such that no switching is required, and connections between contact pins and signal lines or power lines are predetermined and do not change.” (ROB at 16.) Respondents assert that their construction “appropriately captures both (i) the requirement that the controller *actively* or *dynamically* selects the signal lines or power line to be connected to the contact pin in response to the type of card inserted and detected, and (ii) Applicant’s explicit

disclaimer of having a different set of contact pins for each type of memory card.” (ROB at 18-19.)

As for TPL’s construction, Respondents argue that it deviates from the intrinsic evidence and improperly attempts to recapture subject matter disclaimed during prosecution. (COB at 19.) Respondents assert that “[e]quating ‘to map’ with ‘to assign’ as TPL suggests would eviscerate the critical and necessary distinction that the Applicant made between the asserted claims and [the prior art].” (COB at 19.) Respondents contend that even the specific prior art references that Applicants distinguished would meet TPL’s construction of the mapping limitation. Respondents argue that assigning contact pins to power lines or signal lines can be done in advance of any card being asserted. (COB at 19.)

TPL contends that the plain and ordinary meaning of this claim term is apparent and that no construction is necessary. TPL specifically disputes two parts of Respondents construction: (1) the requirement that there be “two or more different signal lines or power lines;” and (2) the requirement that mapping be “selectively connecting.” First, TPL argues that the claim language states that the mapping be of “at least a subset of contact pins to a set of[:] signal lines *or* power lines.” (CRB at 1 (emphasis in the original).) TPL asserts that a person of ordinary skill would understand that this set could consist of two signal lines and one power line or one signal line and one power line. (CRB at 2.) Thus, TPL argues that Respondents’ requirement of “two or more” power lines is improper. (CRB at 2.) In addition, TPL argues that the specification discloses an embodiment where only one power line may be required. (COB at 2 (citing ’443 Patent at Fig. 4).)

Second, TPL argues that replacing “to map” with “to selectively connect” would inject ambiguity into the claims. TPL argues that Respondents seek to add this term because

Respondents contend that “unless ‘selectively connecting is written into the claims, the claim would be read to allow ‘mapping . . . based on an identified type of memory card’ in advance of a card being inserted into the port.” (CRB at 2.) TPL responds that “the plain and ordinary meaning of this phrase already captures the requirement of a controller to ‘map . . . contact pins . . . to a set of signal line or power lines based upon the identified type of memory card.” (CRB at 2.) Thus, TPL contends that the claims already contain this limitation. TPL asserts that Respondents construction could be interpreted to mean that the controller must “physically connect the contact pins to different signal lines inserted into the port, which would be akin to throwing a switch in a railroad track that connects one track to another.” (CRB at 3.) TPL argues that this is not required and that the mapping involves logically, not physically, assigning contact pins to power, ground, or data lines. (CRB at 3.)

The ALJ finds that the parties are in fact relatively close in their constructions, both of which largely mirror the claim language itself. First, TPL concedes that a fixed assignment is contrary to plain language of the claims, so Respondents’ concerns regarding the use of the word “assigning” to recapture claim scope or as an effort by TPL to contend that fixed assignments of contacts to signals is without foundation. (See CRB at 4 (“Respondents argue that TPL’s proposal would allow thee contact pins to be mapped or assigned to the signal lines in advance of any card being inserted. This is false. TPL proposed a construction of ‘to map . . . *based on type of memory media card inserted.*’”). Second, Respondents appear to concede that the mapping is a logical function and does not require some physical connection be changed in the device in order to accomplish it. Thus, TPL’s concerns that the phrase “selectively connecting” will be used by Respondents to argue that the controller must physically connect the contact pins to different signal lines is also without foundation. From this discussion, it appears that there is

little value in either parties' construction because they seem to largely agree on what "map" means within the art and both constructions appear to only replace "map" with another word. But neither word appears to add much to the clarity of the claims.

The ALJ agrees with TPL, however, that Respondents' requirement that there be "two or more different signal lines or power lines" is contrary to the claim language. The claim language merely requires that mapping occur between a subset of the contact pins and "signal lines or contact lines." Thus, there is no requirement in the claim language that there be "two or more different signal lines or power lines." Indeed, if the mapping is accomplished logically it is possible that there could be only one signal line and one power line as TPL suggests or two signal lines and one power line. Further, the specification supports TPL's argument. As TPL notes, Figure 4 of the specification discloses an embodiment with only one power line. That suggests that reading in the "two or more different signal lines or power lines" limitation suggested by Respondents would be incorrect. *See Interdigital Commc'ns, Inc. v. Int'l Trade Comm'n*, --- F.3d ----, 2012 WL 3104597, at *7 (Fed. Cir. Aug. 1, 2012).

As for the prosecution history, the ALJ does not discern the broad disclaimer Respondents suggest, and so the ALJ declines to read in the additional limitations that Respondents seek. During the prosecution, the examiner rejected the asserted claims of the '443 Patent as anticipated by U.S. Patent No. 6,402,558 to Hung-Ju et al. ("Hung-Ju"). The examiner argued that Hung-Ju disclosed the original claim limitation that merely required that the controller chip be "operable to differentiate a pin configuration based on an asserted memory media card." The Applicants amended the claim to eliminate the "differentiate" language recited above and replaced it with the current "map" limitation that is in dispute. The Applicants further argued to the examiner that Hung-Ju did not contain a suggestion or teaching of a controller chip

to “map at least a subset of the at least one set of contact pins to a set of signal lines or power lines.” (Exhibit 7 at TPL002554.) Applicants explained that Hung-Ju disclosed physically positioning contact pins and entrance slots in various locations for different types of memory cards. (Exhibit 7 at TPL002554-55.) Applicants further explained that “Hung-Ju teaches away from the claim limitation using a controller chip to ‘*map at least a subset of the at least one set of contact pins to a set of signal or power lines*’ where one set of pins is mapped to different signals depending on the type of identified memory card, as recited in Applicant’s independent claims 1 and 12.” (*Id.* at TPL002555 (emphasis in the original).) As Respondents explain in their brief, Hung-Ju involved a device with different slots for different types of memory cards. (COB at 17.) Each of these slots had their own dedicated signal and power lines. (*Id.*) However, this simply does not discuss or support Respondents’ contention that there must be “two or more different signal lines or power lines.”

As for Respondents requirement that “[a]t least one set of contact pins is used for different types of memory cards,” this proposed limitation is similar to the statement quoted above from the prosecution history that “where one set of pins is mapped to different signals depending on the type of identified memory card.” However, it is also slightly, and inexplicably, different. The ALJ is unclear what exactly the difference is (if there is one) between the undisputed requirement that “one set of pins is mapped to different signals depending on the type of identified memory card” described in the prosecution history and Respondents’ proposed limitation. Respondents provide no illumination in their brief. In any event, TPL does not appear to contest that at least some of the contact pins must be shared by the different memory card types, which seems to be the concept this sentence of Respondents’ construction is aiming to capture. (See RRB at 3 (“Moreover, Hung-Ju teaches that no contact pins are shared.

Therefore, there is no indication that Hung-Ju teaches mapping based on the identified card type.”). Thus, it is clear that at least some of contact pins must be shared although the signals mapped to those shared contact pins may be different. This is supported by the plain meaning of the claim language and confirmed by the statements in the prosecution history.

Finally, there appears to be one other difference between the proposed constructions. TPL’s construction proposes the assigning (or mapping) be to “a group of contact pins,” while Respondents’ construction maps to “at least one contact pin” to the power or signal lines. Respondents argue that TPL’s proposal would render “subset” in the claim term superfluous because “group of pins” is broad enough to encompass the entire set of pins. (ROB at 15.) TPL argues that this is consistent with the claim language that only requires a controller chip to map “at least a subset of contact pins.” (CRB at 4.) TPL is correct. The claim language only states “at least a subset.” It does not require “a subset” as Respondents appear to contend. Indeed, even their own construction that requires “at least one contact pin” could include all of the contact pins. Thus, Respondents argument makes little sense.

In the end, the ALJ finds it makes little sense to simply re-write the claims. This is particularly the case when the claim language is as detailed as it is in this case and the claim language appears to more accurately capture the meaning of the element than either proposed construction. As discussed above, the ALJ finds that Respondents’ proposed construction is largely inconsistent with the intrinsic evidence, and would serve to confuse more than clarify. Indeed, a number of the concerns expressed by Respondents have turned out not to be disputed by TPL. In light of the above resolution of the parties’ perceived disputes, the ALJ finds that the plain and ordinary meaning should govern. However, for absolute clarity, the ALJ does believe that some gloss on the claim term is necessary. The limited clarification is that the mapping

must occur based on the type of memory card inserted as conceded by TPL. Thus, the ALJ construes “to map at least a subset of the at least one set of contact pins to a set of signal lines or power lines, based on an identified type of the memory media card” and “to map at least a subset of contact pins to a set of signal lines or power lines, based on an identified type [of] the memory media card” to have its plain and ordinary meaning as outlined above and with the caveat that the mapping must occur based on the type of memory card inserted. This construction is also subject to the discussion above.

6. (A) “means for mapping power, ground or data signals between said interconnection pins and said one or more contact pins depending upon the identifying of the type of memory card inserted into said port” (‘424 patent, cl. 25)

(B) “means for mapping, power, ground or data signals between said interconnection means and said one or more contact pins depending upon the identification of the type of memory card inserted into said port” (‘424 patent, cl. 28)

(C) “means for mapping power, ground or data signals between said signal lines and said contact pins depending upon the identification of the type of memory card inserted into said port” (‘847 patent, cl. 1)

These three phrases are addressed together because they are substantially similar.

TPL’s Proposal ⁶	Respondents’ Proposal
Means-plus-function elements, subject to 35 U.S.C. §112, ¶ 6.	Means-plus-function elements, subject to 35 U.S.C. §112, ¶ 6.
(A) “means for mapping power, ground or data signals between said <u>interconnection pins</u> and said one or more contact pins depending upon the identification of the type of memory card inserted into said port”	<u>Function</u> : Mapping power, ground or data signals between said [interconnection pins / interconnection means / signal lines] and said one or more contact pins depending upon on the identification of the type of memory card inserted into said port
<u>Function</u> : “assigning power, ground and/or data signals to a plurality of interconnection pins and one or more contact pins based on	“mapping ... depending upon the identification of the type of memory card

⁶ The main differences between the three phrases being construed are underlined in this table.

<p>the type of memory card”</p> <p><u>Structure includes at least the following:</u> '424 patent Fig. 4; Fig. 5: 5:54-6:63; and equivalent structures.</p> <p><u>Description of the structure:</u>⁷ “a controller that can change one or more signals provided to one or more contact pins via one or more signal lines depending on card type.”</p>	<p>inserted into said port” in the context of these claims means:</p> <p>selectively connecting at least one contact pin to one of two or more different [interconnection pins / interconnection means / signal lines] based upon the type of memory media card identified by the controller. At least one set of contact pins is used for different types of memory cards.</p>
<p>(B) “means for mapping power, ground or data signals between said <u>interconnection means</u> and said one or more contact pins depending upon the identification of the type of memory card inserted into said port”</p>	<p><u>Structure:</u> A controller programmed in accordance with an algorithm disclosed in the specification</p>
<p><u>Function</u> “assigning power, ground and/or data signals to said interconnection means and one or more contact pins based on the type of memory card”</p> <p><u>Structure includes at least the following:</u> '424 patent Fig. 4; Fig. 5: 5:54-6:63; and equivalent structures.</p> <p><u>Description of the structure:</u>⁸ “a controller that can change one or more signals provided to one or more contact pins via one or more signal lines depending on card type.”</p>	<p>This term is indefinite.</p>
<p>(C) “means for mapping power, ground or data signals between said <u>signal lines</u> and said contact pins depending upon the identification of the type of memory card inserted into said port”</p> <p><u>Function:</u> “assigning power, ground and/or data signals to a plurality of signal lines and one or more contact pins based on the type of memory card”</p>	

⁷ Respondents object to this “description of the structure” based on the ALJ’s findings below, the ALJ determines that it is not necessary to rely on this “description.”

⁸ Respondents object to this “description of the structure” based on the ALJ’s findings below, the ALJ determines that it is not necessary to rely on this “description.”

<p><u>Structure includes at least the following:</u>⁸ '847 patent Fig. 4; Fig. 5; 5:41-6:49; and equivalent structures.</p> <p><u>Description of the structure:</u>⁹ “a controller that can change one or more signals provided to one or more contact pins via one or more signal lines depending on card type.”</p>	
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The parties agree that these terms are means plus function terms governed by 35 U.S.C. §

112 ¶ 6. In construing a means-plus-function claim, the ALJ must first determine the claimed function and then identify the corresponding structure in the written description of the patent that performs that function. *Applied Med. Res. Corp. v. U.S. Surgical Corp.*, 448 F.3d 1324, 1332 (Fed. Cir. 2006).

The parties' dispute over the function of this means plus function element largely mirrors the dispute regarding the “to map” limitation discussed above. While Respondents adopt the claim language of this element as the function, they also include a further construction of “mapping” that is based on (and is nearly identical to) the construction they proposed for the “to map” limitations above. TPL, on the other hand, seeks to re-write the claim language to be consistent with the definition they proposed as an alternative definition for the “to map” limitations. As discussed above, most of the disputes between the parties regarding “mapping” are non-disputes. Moreover, the ALJ finds, as discussed above, that Respondents' proposed construction of “mapping” is incorrect and seeks to read a number of improper limitations into the claim. As for TPL's proposed construction of the function, it merely seeks to re-write the claim language, which as the ALJ described above, is largely self-explanatory and does not require construction. Thus, the ALJ agrees with Respondents that the function should be defined

⁹ Respondents object to this “description of the structure” based on the ALJ's findings below, the ALJ determines that it is not necessary to rely on this “description.”

by the claim language. Accordingly, the ALJ construes the function of these claim elements to be: “Mapping power, ground or data signals between said [interconnection pins / interconnection means / signal lines] and said one or more contact pins depending upon on the identification of the type of memory card inserted into said port.” However, the ALJ rejects Respondents’ attempt to further define “mapping” for the reasons discussed above with respect to the “to map” limitation.

The parties’ remaining dispute is what the appropriate structure is for this claim term. “A structure disclosed in the specification qualifies as a ‘corresponding structure’ if the specification or the prosecution history ‘clearly links or associates that structure to the function recited in the claim.’” *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1311 (Fed. Cir. 2012) (quoting *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997)). “Even if the specification discloses a ‘corresponding structure,’ the disclosure must be adequate; the patent’s specification must provide ‘an adequate disclosure showing what is meant by that [claim] language. If an applicant fails to set forth an adequate disclosure, the applicant has in effect failed to particularly point out and distinctly claim the invention as required by the second paragraph of section 112.’” *Id.* at 1311-12 (quoting *In re Donaldson Co.*, 16 F.3d 1189, 1195 (Fed. Cir. 1994) (en banc)). Under 35 U.S.C. § 112 ¶ 2 and ¶ 6, therefore, “a means-plus-function clause is indefinite if a person of ordinary skill in the art would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim.” *AllVoice Computing PLC v. Nuance Commc’ns, Inc.*, 504 F.3d 1236, 1241 (Fed. Cir. 2007) (citing *Atmel Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1381–82 (Fed. Cir. 1999)).

The parties agree that the controller is at least part of the structure disclosed and linked to the mapping function in the specification. (CRB at 6; ROB at 21-24.) TPL contends that

“[b]ecause the controller chip or controller that facilitates the ‘mapping’ function and is not limited to a computer or microprocessor, the specification need not disclose an algorithm.” (CRB at 6.) Specifically, TPL argues that “[TPL’s expert], one of ordinary skill, has opined on this issue and agrees that the controller chip need not be a computer or microprocessor; rather, it can simply be a chip or integrated circuit that can manage, for example, flash memory card input / output.” (CRB at 6 (quoting CRB Exhibit A: Declaration of Dale Buscaino dated August 2, 2012 ¶ 20).) Thus, TPL concludes that no algorithm need be disclosed.¹⁰ Respondents argue that “[t]he Federal Circuit has consistently held that where the function of a means-plus-function limitation is performed by a general purpose computer or microprocessor, such as a controller, the structure includes not only the computer itself but also the algorithm disclosed in the specification by which the computer performs the claimed function.” Respondents contend that “the only disclosed structure having the capability to perform the mapping function is a general purpose controller, *i.e.*, a microprocessor, which must be programmed according to a particular algorithm in order to perform the mapping *depending upon the identification of the type of memory card inserted* (and as clarified by the file history of the ’443 patent).” (RRB at 24.)

The ALJ agrees with TPL that the controller is sufficient structure in this case. As the Federal Circuit has explained, “[t]he question [of whether a means-plus function claim is indefinite] is not whether one of skill in the art would be capable of implementing a structure to perform the function, but whether that person would understand the written description itself would disclose such a structure.” *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1338 (Fed. Cir. 2008). Thus, while Respondents are correct that “the testimony of one of ordinary

¹⁰ Respondents in their reply brief attempt to exclude Mr. Buscaino’s (TPL’s expert) testimony as having been improperly raised in TPL’s responsive brief. Respondents also argue that TPL never identified the controller as the structure in their opening brief. The ALJ finds that whatever prejudice resulted from TPL’s altered arguments are made up for by granting Respondents leave to file a reply brief where they address these arguments. Moreover, Respondents have had ample opportunity to address these arguments in their brief and at the *Markman* hearing.

skill in the art cannot supplant the total absence of structure from the specification,” *Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1302 (Fed. Cir. 2005), and “the structure disclosed in the specification be more than simply a general purpose microprocessor,” *Aristocrat Techs. Austl. Pty Ltd. v. Int’l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008), “it is unnecessary for the written description to disclose additional detail [where] a person of ordinary skill in the art would have recognized the [device] shown in the patent was an electronic device with a known structure,” *Technology Licensing*, 545 F.3d at 1339. Here, TPL presented evidence that a person of ordinary skill in the art would understand that the claimed “means for mapping ...” corresponds to the controller disclosed in the specification. TPL presented further evidence that a person of ordinary skill in the art would understand what this structure was. This is sufficient to establish that the claims are definite. *See Telecordia Tech., Inc. v. Cisco Sys., Inc.*, 612 F.3d 1365, 1377 (Fed. Cir. 2010) (“Here, [Telecordia’s expert] testified that an ordinary artisan would know how to interpret the specification and actually build a circuit. The record shows that an ordinary artisan would have recognized the controller as an electronic device with a known structure. Therefore, the specification along with the figures shows sufficient structure to define the claim terms for an ordinary artisan in the relevant field.”) Respondents also presented expert testimony and prior submissions by Mr. Buscaino that appear to contradict his testimony in this case. “However, patents are presumed to be valid, and so [Respondents] bear[] the burden of proving that an ordinary artisan would not understand the disclosure.” *Telecorida*, 612 F.3d at 1377. At the very least, there are disputed issues of material fact as to whether the claim term is indefinite. *See Rembrandt Data Tech., L.P. v. AOL, LLC*, 641 F.3d 1331, 1343 (Fed. Cir. 2011). Accordingly, the ALJ construes the structure corresponding to the “means for mapping. . .” as a

controller. The ALJ declines to adopt TPL's other requirements that the controller "change one or more signals provided to one or more contact pins via one or more signal lines depending on card type." This would amount to purely functional claiming and would not be structure. Respondents remain free to raise their indefiniteness defense at the hearing and may attempt to prove by clear and convincing evidence that a person of ordinary skill at the time of the invention would not have understood the term.¹¹

7. "type of memory [media] card" ('443 patent, cls. 1 and 9; '424 patent, cls. 25 and 28)

TPL's Proposal	Respondents' Proposal
<p>Plain and ordinary meaning, no construction necessary.</p> <p>In the alternative, if construed:</p> <p>"a memory media card that is a member of a group of memory media cards that comply with the same specifications as other cards that have the same certification, such as the Multi Media Card certification or the Secure Digital certification, which each define a different type of memory media card"</p>	<p>Different "types of cards" have incompatible electrical and physical interfaces. For purposes of mapping/identifying in these claims, MMC/SD is a single type of memory media card.</p>

The parties' dispute regarding this term centers on whether, for purposes of the mapping and identifying elements of the asserted claims, that MMC and SD cards are a single card type or instead are two different types of media cards. This claim term is found in the '443, '424, and '847 Patents and the parties agree that it should be construed consistently across all of the patents.

Respondents rely on several points to prove their assertion that in referring to "type of memory [media] card," the patents define MMC and SD as a single "type." First, Respondents

¹¹ The ALJ notes that Respondents' arguments on this point more closely resemble enablement arguments rather than indefiniteness arguments. See *Liebel-Flarsheim Co. v. Medrad, Inc.*, 481 F.3d 1371 (Fed. Cir. 2007).

rely on several of the dependent claims. In those dependent claims, the patentee lists a number of formats of memory media cards. For example, claims 2 and 7 of the '443 Patent and claims 3 and 10 of the '424 Patent are representative (Respondents also identify claims 10 and 14 of the '443 Patent; and claims 17, and 22 of the '424 Patent):

2. The multi-memory media adapter of claim 1 wherein the memory media card is one of a group comprising of xD, MMC/SD, Memory Stick, miniSD, RSMMC, and MS Duo.

7. The multi-memory media adapter of claim 1 having at least 18 contact pins configured to accommodate at least one of a group comprising, an xD, MMC/SD, Memory Stick, miniSD, RSMMC, and MS Duo.

3. The media card adapter of claim 1, wherein the adapter is operable to receive and read a memory media card comprising at least one of xD, MMC/SD, Memory Stick, miniSD, RSMMC, and MS Duo.

10. The system of claim 8, wherein the adapter is operable to receive and read a memory media card comprising at least one of xD, MMC/SD, Memory Stick, miniSD, RSMMC, and MS Duo.

Respondents argue that “each of these dependent claims recites a group comprising six enumerated types of memory media cards separated by commas....” (ROB at 46.) Respondents continue that “six of the eight claims expressly equate ‘MMC/SD’ to a single ‘memory media card.’” (*Id.*) Respondents argue that if “Applicant intended for MMC and SD format cards to be treated as two separate types of memory cards rather than just one, the references to ‘MMC’ and ‘SD’ would be separated by a comma—as was done with the other types of memory cards in the list.” (*Id.*) Respondents conclude that this “combined MMC/SD notation, when set forth in a list of other indisputably separate types of media cards separated by commas, plainly denotes that MMC and SD are ‘one’ type of memory card—not two—for purposes of claims requiring pin mapping based on card identification.” (*Id.*) Respondents argue that any other construction would be inconsistent with these dependent claims. (*Id.* at 46-47.)

Second, Respondents also point to other references in the specification that use similar punctuation and refer to “MMC/SD.” (*See* ’443 Patent at 1:67-2:2, 3:52-54, 55-58, 5:54-6:24, 6:59-60, Figure 4 and 5.) Respondents argue that this amounts to an express definition of MMC and SD as one type of memory card. Respondents note that there are other references to MMC and SD that do not use the “MMC/SD” notation, but Respondents argue that those references are in relation to other embodiments that do not map and identify the memory media cards.

Finally, Respondents point to the prosecution history of the ’443 Patent. In that prosecution history, Applicants distinguished the Hung-Ju reference discussed above in reference to mapping. Respondents argue that to overcome Hung-Ju, Applicants argued that in Hung-Ju each type of memory card had its own non-shared set of contact pins, and therefore Hung-Ju did not map signals to pins based on identified card type. (ROB at 49.) Respondents assert that this argument can only make sense if MMC cards and SD cards are considered to be one type of memory card. (ROB at 50.) Respondents argue that the prosecution history demonstrates that Applicant was aware that Hung-Ju disclosed a device where MMC and SD cards share common contact pins, but chose to characterize them as a single type of memory media card in distinguishing the proposed claims over Hung-Ju. Respondents assert that the prosecution history confirms: 1) “MMC and SD cards are to be treated as a single card type for purposes of mapping signals to pins and identifying cards...”; and 2) the asserted patents’ “mapping claims do not cover devices that interface with MMC and SD cards using shared contact pins.” (ROB at 51.)

TPL argues that no construction is necessary for this term because the meaning is readily discernible. (COB at 43.) However, if the term is construed, TPL requests that the construction should “clarify that one of ordinary skill in the art would understand that a type of memory card

is one that is a member of a group of memory media cards that complies with the same specifications as other cards that have the same certification.” (COB at 43.) TPL submits that these certifications “may, for example, be Multi Media Card (MMC) certifications or Secure Digital (SD) certifications.”

TPL points to references in the specification where MMC and SD cards are referred to separately. (COB at 44; ’443 Patent at 1:67-2:2; Figure 1.) TPL argues that the slash between the MMC and SD merely indicates that the two cards are similar but does not mean that they are the same card type. (CRB at 18.) TPL also points to the prosecution history of the ’847 Patent and ’424 Patent where the Applicants clearly stated that MMC and SD were different card types. (CRB at 18-19.) As for Respondents’ arguments regarding Hung-Ju, TPL argues that Respondents have not shown how the applicant clearly and unmistakably disclaimed SD and MMC card types from being different card types for the purposes of mapping or identifying. (CRB at 20.) TPL notes that there was no express discussion of MMC and SD cards by applicant in relation to Hung-Ju in the prosecution history. (CRB at 20.)

The ALJ agrees with TPL that this term should simply be given its plain and ordinary meaning and that MMC and SD are not necessarily one type of memory card. The claim term “type of memory media card” is broad enough to encompass the situation where MMC and SD cards are different “types.” They are not identical. Thus, for Respondents’ construction to be correct, the question is whether the patentee either defined “type” where MMC and SD are the same “type” or whether the patentee disclaimed claim scope such that the claims have been narrowed. *See Thorner*, 669 F.3d at 1365. The ALJ does not find any such definition or disclaimer of claim scope in the claim language, specification, or the prosecution history.

Beginning with the claim language, it is clear that the claim language itself is broad enough where SD and MMC could be different “types” of memory cards. There is nothing in the language of the independent claims that supports a narrower construction that would hold that SD and MMC are the same type of memory card. Instead, Respondents rely on language in some of the dependent claims that includes lists of possible formats of memory cards that can be used in the claimed invention. In those dependent claims, the patentee lists various categories or groups of memory cards separated by a comma. One of the categories of cards listed refers to “MMC/SD.” Respondents contend that the patentee’s use of a virgule (*i.e.*, slash) instead of a comma between MMC and SD indicates that MMC and SD are a single format for purposes of these claims. However, the ALJ is not persuaded that this punctuation alone is sufficient to find that that the patentee meant that these were a single “type” of memory card. While the structure of the lists of memory card formats in these dependent claims does suggest that MMC and SD are certainly related and that they are distinct from the other formats, there is nothing that “compels” (as Respondents contend) that MMC and SD be the same “type” of memory card as described in the claims.

First, there is no reference of “type” in any of these dependent claims. The dependent claims only refer to “memory media card.” Thus, there is nothing to indicate that MMC and SD are the same “type” of “memory media card” for purposes of the claims.

Second, the virgule (*i.e.*, slash) that separates the two terms has many possible meanings; some of those meanings are consistent with MMC and SD being different “types.” For example, a virgule can mean “or,” “and,” or even to indicate a “vague distinction, in which it’s not quite an *or*.”¹² Bryan A. Garner, *Garner’s Modern American Usage* 682 (Oxford Univ. Press 3d ed.

¹² Garner’s entire discussion of this punctuation mark is worth repeating:

2009). TPL suggests this last meaning in its brief, when it explains that the virgule in the dependent claims merely means that these two types of cards are related not that they are the same “type” of memory card. This is certainly plausible just looking at the claim language alone. Thus, Respondents’ construction is not compelled by the claim language.

Moreover, any doubt that this conclusion is correct is confirmed by the specification. While Respondents are correct that in some parts of the specification the patentee also uses the “MMC/SD” construction to refer to these two formats of cards, this construction is not conclusive for the same reasons its use in the dependent claims are not conclusive—the slash (or virgule) does not necessarily mean MMC and SD are the same thing. Moreover, nothing in the specification expressly defines them as the same “type.” On the contrary, the specification acknowledges they are different. For example, the specification states “the reader can adapt to a MultiMedia Card 141, or a Secure Digital card 143, which have the same form factor but slightly different pin-out....” (’424 Patent at 2:2-4.) An even more detailed discussion is provided in the ’638 Patent, which is fully incorporated by reference into the ’443, ’424, and ’847 Patents. *See DealerTrack, Inc. v. Huber*, 674 F.3d 1315, 1323 (Fed. Cir. 2012) (finding incorporation by reference met with similar language to that used in the Asserted Patents). The ’638 Patent specification explains:

Other kinds of flash-memory cards that are being championed by different manufacturers include MultiMediaCard (MMC) 28 and related Secure Digital Card (SD) 26. MMC is a trademark of SanDisk Corp. of Sunnyvale, Calif. while SD is controlled by SD Group that includes Matsushita Electric Industrial Co., SanDisk Corporation, Toshiba Corp.

Q. Virgule [/]. Known popularly as the “slash,” arcanelly as the “solidus,” and somewhere in between as the “diagonal,” the virgule is a mark that doesn’t appear much in first-rate writing. Some writers use it to mean “per” <50 words/minute>. Others use it to mean “or” <and/or> or “and” <every employee/independent contractor must complete form XJ42A>. Still others use it to indicate a vague disjunction, in which it’s not quite an *or* <the novel/novella distinction>. In this last use, the en-dash is usually a better choice. . . . In all these uses, there’s almost always a better choice than the virgule. Use it as a last resort. . . . Garner, *Garner’s Modern American Usage* at 682.

(’638 Patent at 2:29-35.)

In addition, the ’638 Patent explicitly lists MMC and SD as different “types” of multimedia memory cards: “The CompactFlash reader can use a single CompactFlash slot to read multiple flash-card types, including SmartMedia, MultiMediaCard, Secure Digital, Memory Stick, and CompactFlash.” (’638 Patent at 4:45-48.) The specification also uses the “MMC/SD” notation interchangeably. (*See id.* at 4:3-4, 5:51-55, 6:52-55.) Indeed, as this paragraph makes clear the reason the MMC/SD notation is used is because the similarities between the two card types:

MultiMediaCard 28 and Secure Digital card 26 are flash-memory cards with similar 9-pin interfaces. Serial data transfer is used through a single Data I/O pin. MMC/SD adapter 32 has an opening with a 9-pin connector to receive either MultiMediaCard 28 or Secure Digital card 26. Once MultiMediaCard 28 or Secure Digital card 26 is inserted into MMC/SD adapter 32, then MMC/SD adapter 32 can be inserted into a CompactFlash slot on a special CompactFlash reader. The CompactFlash reader then detects the card type and performs serial-to-parallel conversion.

(’638 Patent at 5:15-24.)

Thus, the specification supports a conclusion that MMC and SD are different types. At the very least, these passages in the Asserted Patents and the ’638 Patent demonstrate that there has not been a clear redefining of “type” or that there has been a clear and unmistakable disclaimer of claim scope. *See Thorner*, 669 F.3d at 1365-67 (noting lexicography requires “clearly express[ed] intent” and to constitute disclaimer, “there must be a clear and unmistakable disclaimer.”)

Finally, as for Respondents’ reliance on the prosecution history, this presents a closer case. During the prosecution, the ’443 Patent was rejected as anticipated by U.S. Patent No. 6,402,558 to Hung-Ju. In distinguishing Hung-Ju, the Applicants argued:

Further, in Hung-Ju,

“the multi-media card or the digital card can be inserted into the card insertion slot 106b with the input/output contact points facing down. Similarly, the card insertion slot 106a can accommodate a smart media card. Because the 22 contact pins 104a are fixed at appropriate positions on the upper frame 102a, the smart media card can be inserted into the card insertion slot 106a with the input/output contact points facing up. (Col. 3 lines 32-41)

“A smart media card (SMC) must be inserted into the memory card adapter with the input/output contact points of the card facing up so that proper electrical contacts with the contact pins 104a can be made. (Col. 4 lines 19-21)

Thus, different types of media cards are inserted in the memory card adapter with different orientations (e.g., facing up or down) depending on where the set of contact pins used for a particular type of memory card is physically located in the memory card adapter. Hung-Ju does not suggest, motivate, or teach a controller chip to “may at least a subset of the at least one set of contact pins to a set of signal lines or power lines” based on an identified type of a memory media card.

...

(Respondents’ Br. Ex. 7: Response to Office Action dated February 7, 2007 at TPL002555-56 (emphasis in the original).)

Respondents assert that implicit in this argument is the assumption that the multi-media card and the digital card (SD card) must be the same type. However, prosecution history disclaimers must be clear and unambiguous. *See Omega Eng’g*, 334 F.3d at 1324. While Respondents present an interesting argument, this discussion is not clear and unambiguous. There is no express discussion of MMC and SD cards as a single type by applicant in relation to Hung Ju. Moreover, TPL presented other statements from the prosecution of the ’424 and ’847 Patents where Applicants clearly state that MMC and SD cards are separate card types. (See CRB Exhibit G: June 9, 2009 Amendment from ’847 Patent File History at 9-10; Exhibit D: April 4, 2008 Amendment at 11; Exhibit B: February 8, 2010 Amendment ’847 Patent File History at 6-7.)

TPL’s proposed construction can be easily dispatched. TPL seeks to require that a type of memory card must “comply with the same specifications as other cards that have the same certification, such as the Multi Media Card certification or the Secure Digital certification, which

each define a different type of memory media card....” TPL points to nothing in the specification or anywhere else in the intrinsic evidence that discusses various types of certification and that would justify reading this requirement into the claims. Accordingly, this proposed construction is rejected. The ALJ finds that the claim language is clear on its face and that the term will have its plain and ordinary meaning and that no other construction is necessary.

8. “means for identifying the type of card inserted into said port” (‘424 patent, cls. 25 and 26)/“means for determining the type of card inserted into said port” (‘847 patent, cl. 2)

Because these phrases are used synonymously within the context of the claims, the ALJ addresses both terms together.

TPL’s Proposal	Respondents’ Proposal
<p>Means-plus-function element, subject to 35 U.S.C. §112, ¶ 6.</p> <p><u>Function for ‘424 and ‘847 patents:</u> “identifying the type of memory card inserted into said port”</p> <p><u>Structure for ‘424 patent includes at least the following:</u> ‘424 patent Fig. 4; Fig. 5; 5:54-6:63; and equivalent structures.</p> <p><u>Structure for ‘847 patent includes at least the following:</u> ‘847 patent: Figs. 4 and 5; 5:41-6:49; and equivalent structures.</p>	<p>Means-plus-function element, subject to 35 U.S.C. §112, ¶ 6.</p> <p><u>Function for ‘424 patent:</u> Identifying the type of memory card inserted into said port</p> <p><u>Function for ‘847 patent:</u> Determining the type of memory card</p> <p><u>Structure for ‘424 and ‘847 patents:</u> A controller that reads card detect lines for the various cards, wherein the card detect lines for some cards are multiplexed with parallel data lines for at least one other card.</p>

The parties agree that these claim terms are means plus function terms governed by 35 U.S.C. § 112 ¶ 6. The parties also appear to largely agree on the claimed function—identifying the type of memory card inserted in the said port. Although Respondents adopt different wording for the “means for determining” function from the “means for identifying” function, they offer no argument that there is any difference between “determining” and “identifying” and

they do not seem to contend there is any. Moreover, the ALJ discerns no difference between these words as they are used in the claims and intrinsic evidence cited. Accordingly, the ALJ determines that the function for these two claim terms is “identifying the type of memory card inserted into said port.” The sole dispute is over what the corresponding structure is for these claims.

TPL argues that the specification does not limit the structure to card detect lines, but can also encompass card detect pins.

Respondents argue that the only structure for identifying the card type disclosed in the specification is a controller that reads card detect lines for the various cards, wherein the card detect lines for some cards are multiplexed with parallel data lines for at least one other card.

The ALJ agrees in part with Respondents. The vast majority citations from the ’443, ’424, and ’847 Patents that TPL cites have little to do with identifying the type of card. These sections mostly deal with mapping of the signals and power lines. (COB at 16-18 (quoting ’424 Patent at 5:54-6:63).) The sole section that actually deals with identifying the type of card inserted is:

For such an embodiment, pin 1 is a ground pin and pin 18 is a power pin for each connector. The data lines for the SmartMedia and xD interface cards have a parallel data bus of 8 bits denoted as D0-D7 that occupy pins 10-17. These data bus lines are multiplexed to serve as card-detect lines for the remaining media types. As described in application Ser. No. 09/610,904 (now U.S. Pat. No. 6,438,638), the signal lines to the controller are normally pulled high. When a card is inserted, the card pulls its connected pins low. Detection of card type is determined by detection of which of the mapped card detect lines is pulled low as illustrated in FIG. 5, or by the (binary) state of data or other card pins mapped to a common set of controller pins as described in the aforesaid parent application. See, e.g., FIGS. 4A-E thereof. While no separate address bus is provided, address and data are multiplexed. Control signals for latch enables, write enable and protect, output enable, and ready handshake are among the control signals.

(’424 Patent at 6:36-53.)

This is the only structure disclosed in the specification. TPL asks the ALJ to expand the structure far beyond this disclosure to effectively include the disclosure of the '638 Patent because a person of ordinary skill would have understood their specification to include these additional detection means. However, the law is clear that “material incorporated by reference cannot provide the corresponding structure necessary to satisfy the definiteness requirement for a means-plus-function clause.” *Default Proof Credit Card Sys. Inc. v. Home Depot USA, Inc.*, 412 F.3d 1291, 1301 (Fed. Cir. 2005). Moreover, any effort to capture this material based on expert testimony about what one skilled in the art would have understood cannot suffice either because there is no disclosure of these other methods in the specification. *See Medical Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1212 (Fed. Cir. 2003). However, the description above is not as narrow as Respondents contend. It includes both card detect lines and the binary state of data lines. This is clearly recited in the specification without the need to reference the material incorporated by reference. The ALJ does not agree with TPL’s wholesale effort to point to the entire specification. Thus, the ALJ finds that the corresponding structure is a controller.

The ALJ rejects Respondents’ contention that this is indefinite. As discussed above, TPL presented evidence that this is known structure in the field. In addition, the ALJ finds that if an algorithm were required that the description found in the '424 Patent at 6:36-53 is sufficient. An algorithm is simply “a series of instructions for the computer to follow . . . whether in mathematical formula or a written description of the procedure to be implemented by a suitably programmed computer.” *Typhoon Touch Tech., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1384 (Fed. Cir. 2011) (citations and quotation marks omitted). Such an algorithm may be expressed “in any understandable terms including as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure.” *Id.* at 1385 (quotation marks omitted). The

discussion in the '424 Patent at 6:36-53 is more than sufficient under these criteria. Also, the ALJ notes that TPL is correct that there is no requirement in this disclosure that all types of media cards have their data multiplexed. The only discussion of multiplexing is with regard to the SmartMedia and xD media cards and not all of the media cards and not universally, so TPL is correct that it is unnecessary to include Respondents' construction that "some cards are multiplexed with parallel data lines for at least one other card."

IV. THE '638 PATENT

A. Background and the Claims

U.S. Patent No. 6,438,638 ("the '638 Patent") is entitled "Flashtoaster for Reading Several Types of Flash-Memory Cards With or Without a PC" issued on August 20, 2002, to Larry Jones, Sreenath Mambakkam, and Arockiyaswamy Venkidu. TPL asserts Claims 13-18, and 25-27 of the '638 patent. Claims 13, 25, and 26 are independent claims. Claims 15-18 depend on claim 13 and claim 27 depends on claims 26. The asserted claims read as follow (with the disputed terms in bold):

13. A multi-flash-card reader comprising:

a host connection for transferring data to a host computer;

a converter chip, coupled to the host connection, for converting signals from flash-memory cards to read data from the flash-memory cards for transfer to the host computer;

a first connector, coupled to the converter chip, for accepting a CompactFlash card inserted into a first slot for the first connector, the first connector having a parallel-data bus and an address bus and control signals for controlling parallel data transfer from the CompactFlash card to the converter chip;

a second connector, coupled to the converter chip, for accepting a SmartMedia card inserted into a second slot for the second connector, the second connector having a parallel-data bus and control signals for controlling parallel data transfer from the SmartMedia card to the converter chip; and

a third connector, coupled to the converter chip, for accepting a MultiMediaCard MMC card inserted into a third slot for the third connector, the third connector having a serial-data pin and a clock pin for controlling serial data transfer from the MMC card to the converter chip;

wherein the converter chip controls parallel data and address transfer for the CompactFlash card, parallel data transfer for the SmartMedia card, and serial data transfer for the MMC card, whereby multiple flash-memory cards can be read by the multi-flash-card reader using the converter chip.

14. The multi-flash-card reader of claim 13 wherein the first connector, the second connector, and the third connector each have card detect signals for detecting presence of a flash-memory card inserted into a connector;

wherein the converter chip senses a voltage change in the card detect signals from a connector and activates a routine to access the flash-memory card activating the card detect signals, whereby flash-memory cards are detected by the converter chip.

15. The multi-flash-card reader of claim 14 further comprising: a fourth connector, coupled to the converter chip, for accepting a Memory Stick card inserted into a fourth slot for the fourth connector, the fourth connector having a serial-data pin and a clock pin for controlling serial data transfer from the Memory Stick card to the converter chip; wherein the converter chip also controls serial data transfer for the Memory Stick card.

16. The multi-flash-card reader of claim 14 further comprising: a fourth connector, coupled to the converter chip, for accepting a Memory Stick card inserted into the fourth connector, the fourth connector having at least one serial data pin and a clock pin for controlling serial data transfer from the Memory Stick card to the converter chip; wherein the converter chip also controls serial data transfer for the Memory Stick card.

17. The multi-flash-card reader of claim 15 wherein the host connection is through an external cable to the host computer; wherein the multi-flash-card reader is in an external housing separate from the host computer chassis, whereby the multi-flash-card reader is external.

18. The multi-flash-card reader of claim 15 wherein the host connection is through an internal cable to a board for the host computer; wherein the multi-flash-card reader is in a computer chassis that contains the host computer, whereby the multi-flash-card reader is internal.

25. A multi-flash-card reader comprising:

a host connection for transferring data to a host computer;

a converter chip, coupled to the host connection, for converting signals from flash-memory cards to read data from the flash memory cards for transfer to the host computer;

a first connector coupled to the converter chip, for accepting a CompactFlash card inserted into the first connector, the first connector having a data bus and an address bus and control signals for controlling parallel data transfer from the CompactFlash card to the converter chip;

a second connector, coupled to the converter chip, for accepting a SmartMedia card inserted into the second connector, the second connector having a data bus and control signals for controlling parallel data transfer from the SmartMedia card to the converter chip; and

a third connector, coupled to the converter chip, for accepting a MultiMediaCard MMC card inserted into the third connector, the third connector having at least one serial-data pin and a clock pin for controlling serial data transfer from the MMC card to the converter chip;

wherein the converter chip controls parallel data and address transfer for the CompactFlash card, data transfer for the SmartMedia card, and serial data transfer for the MMC card, whereby multiple flash-memory cards can be read by the multi-flash-card reader using the converter chip.

26. A multi-flash-card reader comprising:

a host connection for transferring data to and from a host computer;

a converter chip, coupled to the host connection, for converting signals from flash-memory cards to read data from the flash-memory cards for transfer to and from the host computer;

a first connector, coupled to the converter chip, for accepting a CompactFlash card inserted into the first connector, the first connector having a data bus and an address bus and control signals for controlling parallel data transfer from the CompactFlash card to the converter chip;

a second connector, coupled to the converter chip, for accepting a SmartMedia card inserted into the second connector, the second connector having a data bus and control signals for controlling parallel data transfer to and from the SmartMedia card to and from the converter chip; and

a third connector, coupled to the converter chip, for accepting a MultiMediaCard (MMC) or Secure Digital (SD) card inserted into the

third connector, the third connector having at least one serial pin and a clock pin for controlling serial data transfer to and from the MMC/SD card to and from the converter chip;

wherein the converter chip controls data and address transfer for the CompactFlash card, data transfer for the SmartMedia card, and serial data transfer for the MMC/SD card, whereby multiple flash-memory cards can be read by the multi-flash-card reader using the converter chip.

27. The multi-flash-card reader of claim 26 further comprising: a fourth connector, coupled to the converter chip, for accepting a Memory Stick card inserted into the forth connector, the fourth connector having at least one serial-data pin and a clock pin for controlling serial data transfer from the Memory Stick card to the converter chip; wherein the converter chip also controls serial data transfer for the Memory Stick.

- B. **“a converter chip, coupled to the host connection, for converting signals from flash-memory cards to read data from the flash-memory cards for transfer to the host computer”** ('638 patent, cls. 13 and 25)/ **“a converter chip, coupled to the host connection, for converting signals from flash-memory cards to read data from the flash-memory cards for transfer to and from the host computer”** ('638 patent, cl. 26)

TPL's Proposal	Respondents' Proposal
<p>Plain and ordinary meaning, no construction necessary.</p> <p>In the alternative, if construed:</p> <p>(A) “a chip, operably connected to a host computer, such that the chip is capable of reading data from a flash memory card, and transferring the read data to the host computer, wherein the converter chip is capable of translating the signals from the flash-memory card to read data”</p> <p>(B) “a chip, operably connected to a host computer, such that the chip is capable of reading data from a flash memory card, transferring the read data to the host computer, and receiving data from the host computer, wherein the converter chip is capable of translating the signals from the flash-memory</p>	<p>A converter chip, coupled to the host connection, that configures itself to read files from the inserted card using the pin interface of FIG. 5 corresponding to the card type.</p>

card to read data”	
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The principal dispute between the parties regarding this claim term is whether the claimed converter chip is limited to the pin configuration described in Figure 5 of the '638 Patent. Respondents argue that the claim language requires that the “converter chip must perform some action in response to a memory card being inserted, in order to read data from that memory card.” (ROB at 62.) Respondents contend that their construction “properly reflects this by requiring that the converter chip configure itself according to Figure 5.” (*Id.*) Respondents argue that this configuration is consistent with claims 13, 25, and 26 because they specifically require the memory card types (CompactFlash card, SmartMedia card, and MultiMedia card) identified in the pin configuration of Figure 5. Respondents further argue that the converter chip must be limited to the pin configuration in Figure 5 because the specification “repeatedly and consistently” describes the claimed invention in this way. (ROB at 62-63.) Respondents also assert that “the inventors characterized this particular pin configuration of Figure 5 as their alleged invention.” (ROB at 63.) Respondents argue that TPL’s proposed construction merely replaces “converting signals” with translating signals and only requires that the converter chip be “capable of reading data and capable of translating signals.” (ROB at 64.) Respondents argue that both of these parts of TPL’s construction are in error and should be rejected.

TPL submits that this term is clear and does not require construction. TPL argues that Respondents’ construction should be rejected because it improperly limits the claims to reading from the flash memory card. In the alternative, TPL argues that if this term is construed, the ALJ should adopt its construction, which is derived from the Abstract of the '638 Patent and is consistent with the Reasons for Allowance included in the Notice of Allowability issued by the examiner. (COB at 36.) TPL asserts that nothing in the intrinsic record supports limiting

“converter chip” to the embodiment in Figure 5. Also, TPL argues that Respondents’ construction would change and remove important limitations found in the claims. For example, TPL asserts that Respondents’ construction would replace “data” with “file” and would remove the requirements that the converter chip “transfer to [and from] the host computer” and “convert[] signals.” (COB at 36-37.)

The ALJ agrees with TPL that the claim language is clear and no construction is necessary. The claim language supports this finding. While Respondents’ construction is not necessarily inconsistent with the claim language, Respondents’ construction would eliminate the claim limitation that the converter chip must be “for converting signals from flash memory cards to read data from the flash memory cards for transfer to the host computer.” Respondents appear to argue that their construction will not read this language from the claim, because “[t]he terms ‘converting signals’ and ‘to read data’ indicate that the converter chip must perform some action in response to a memory card being inserted, in order to read data from that memory card[]” and Respondents’ construction “properly reflects this by requiring the converter chip configure itself according to Figure 5.” However, while configuring the pins might be part of what the converter chip does, the pin configuration is not the same as “converting signals from the flash memory cards to read data from flash memory cards for transfer to the host computer.” The specification explains that “[c]onverter chip 11 may be needed to convert the serial data format of Memory Stick 18 to the parallel data format of a 68-pin PCMCIA slot.” (’638 Patent at 2:50-52.) Thus, it is clear that converting signals can involve more than just pin configuration, but also can include the format of the data. Thus, Respondents’ construction would read out these limitations from the claim, and at least, in part, incorrect.

Respondents' construction would also read in a significant limitation. It would require that the pin configuration be only that described in Figure 5 of the '638 Patent. The ALJ does not find anything in the claim language that would preclude or support this claim limitation. However, the Federal Circuit has repeatedly warned against reading limitations from the specification into claims. *Home Diagnostics, Inc. v. LifeScan, Inc.*, 381 F.3d 1352, 1358 (Fed. Cir. 2004) ("Absent a clear disavowal in the specification or the prosecution history, the patentee is entitled to the full scope of its claim language."). "There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution." *Thorner*, 669 F.3d at 1365. Respondents contend that the patentee has disavowed the full scope of the claims through statements in the specification and the consistent reference to Figure 5 in the various embodiments described in the specification.

However, "[t]he standard for disavowal of claim scope is [] exacting." *Thorner*, 669 F.3d at 1365. "Where the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside the reach of the claims of the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question." *SciMed Life Sys.*, 242 F.3d at 1341. "It is [] not enough that the only embodiments, or all of the embodiments, contain a particular limitation." *Thorner*, 669 F.3d at 1366. Instead, "[t]o constitute disclaimer, there must be a clear and unmistakable disclaimer." *Id.* at 1366-67.

The ALJ simply does not find any clear and unmistakable disclaimer in the specification of the '638 Patent. A number of the sections that Respondents rely on are simply descriptions of different embodiments that state that the pins are configured as in Figure 5. ('638 Patent at 6:49-

51, 65-67, 7:19-21, 8:38-41, 9:4-9, 59-65.) None of these statements clearly limits the claims to Figure 5. However, the specification also states that “[d]ifferent flash-card formats can be supported” and “[a]ny device that needs Control Bus, Clock, Data Bus and Address Bus can be designed to fit into this slot.” (See ’638 Patent at 11:60-12:33.) This suggests that the specification contemplates other possible pin configurations other than Figure 5.

Respondents also argue that the specification “characterized this pin configuration of Figure 5 as their alleged invention.” Specifically, Respondents point to the following section of the specification:

The **present invention** relates to an improvement in flash-memory card readers. The following description is presented to enable one of ordinary skill in the art to make and use the invention as provided in the context of a particular application and its requirements. Various modifications to the preferred embodiment will be apparent to those with skill in the art, and the general principles defined herein may be applied to other embodiments. Therefore, the present invention is not intended to be limited to the particular embodiments shown and described, but is to be accorded the widest scope consistent with the principles and novel features herein disclosed.

The inventors **have realized** that a universal adapter can be constructed using the CompactFlash card form factor. A reader that reads CompactFlash cards can then read any of the other flash-memory cards that plug into the CompactFlash adapter. The adapters are simple, inexpensive passive adapters without a conversion chip.

The inventors **have found** a pin mapping from the smaller flash-card formats to CompactFlash that allows for easy detection of the type of flash-memory card inserted into the adapter. Detection of the type of flash-memory card is thus performed automatically by electronic detection by the CompactFlash reader. The CompactFlash reader is modified to perform this card-type detection. Signal conversion such as serial-to-parallel is performed by the CompactFlash reader rather than by the adapter. Adapter costs are reduced while, CompactFlash reader cost is increased only slightly. The CompactFlash reader can use a single CompactFlash slot to read multiple flash-card types, including SmartMedia, MultiMediaCard, Secure Digital, Memory Stick, and CompactFlash.

(’638 Patent at 4:17-49 (sections quoted in Respondents’ brief underlined and emphasis added).)

As the full quote above illustrates, the inventors did not explicitly characterize the pin mapping as the “invention,” as Respondents suggest. The phrase “the present invention” and the pin map are separated by two full paragraphs — not the much smaller distance that Respondents’ aggressive use of ellipses suggests. The specification only informs us that the “inventors have found a pin mapping from the smaller flash-card formats to CompactFlash that allows for easy detection of the type of flash-memory card inserted into the adapter.” This is not similar to the case Respondents rely on *Honeywell International, Inc. v. ITT Industries, Inc.*, where “[o]n at least four occasions, the written description refer[ed] to [only one particular component] as ‘this invention’ or the ‘present invention[.]’” As the Federal Circuit has explained:

It is true that, in some circumstances, a patentee’s consistent reference to a certain limitation or a preferred embodiment as ‘this invention’ or the ‘present invention’ can serve to limit the scope of the entire invention, particularly where no other intrinsic evidence suggests otherwise. [...] On the other hand, [the Federal Circuit has] found that use of the phrase ‘present invention’ or ‘this invention’ is not always so limiting, such as where the references to a certain limitation as being the ‘invention’ are not uniform, or where other portions of the intrinsic evidence do not support applying the limitation to the entire patent.

Absolute Software, Inc. v. Stealth Signal, Inc., 659 F.3d 1121, 1136 (Fed. Cir. 2011). The ALJ finds that the situation presented here is consistent with the second situation where the Federal Circuit has not found “the present invention” limiting. Because the references in the specification are not consistent and there is nothing to suggest applying this limitation to the entire patent.

Indeed, the other sections relied upon by Respondents provide even less support for their contention. Respondents also rely on a statement that “[t]he inventors have carefully examined the pins of the interfaces of various flash memory cards....” (’638 Patent at 6:1-2.) However, this quote continues that that the inventors “have discovered that type-detection can be performed by examining two address pins.” (’638 Patent at 6:2-3.) This full quote does not

suggest that the invention is limited to the pin layout in Figure 5. It does not even mention Figure 5 or suggest that Figure 5 is the only way to implement the inventors “discover[y].” Finally, Respondents rely on the description of Figure 5 in the specification that it is “a table of pin mappings....” However, the language here only suggests that this is one of many possible mappings, not that it is “the mapping.” Accordingly, the ALJ finds that the specification does not evidence the clear disavowal required to limit the claim scope. This does not suggest that the ALJ determines that the full scope of these claims is necessarily enabled or not. *Liebel-Flarsheim*, 481 F.3d 1371.

With this determination, the ALJ finds that the claim language is clear. The other proposed constructions merely substitute different words for the words in the claim. This does not add any additional clarity to the claims, so the ALJ declines to construe the terms and finds that their plain and ordinary meaning governs.

V. THE ‘623 PATENT

A. Background and the Claims

U.S. Patent No. 6,976,623 (“the ‘623 Patent”) is entitled “Flash Juke Box” issued on December 20, 2005, to Sreenath Mambakkam; Arockiyaswamy Venkidu; and Larry Jones. TPL has asserted independent Claims 1, 9 and 17 and dependent Claims 2-4, 10-12, and 18-19 of the ‘623 patent. The disputed claim terms are found in the independent claims. The asserted claims read as follow (with the disputed terms in bold):

1. A memory card interface apparatus comprising:

a plurality of memory card interfaces comprising a first subset to interface with a memory card of a first type and a second subset to interface with a memory card of a second type, wherein the memory card of the first type and the memory card of the second type are **accessible in parallel** to transfer data from the memory card of the first type to the memory card of the second type.

9. A system comprising:

a controller circuit;

a bus coupled to the controller circuit;

a plurality of memory card interfaces comprising a first subset to interface with a memory card of a first type and a second subset to interface with a memory card of a second type, wherein the memory card of the first type and the memory card of the second type are **accessible in parallel** to transfer data from the memory card of the first type to the memory card of the second type.

17. A method comprising:

providing access to a plurality of memory card interfaces comprising a first subset to interface with a memory card of a first type and a second subset to interface with a memory card of a second type;

and selectively operating the first and second subsets to **provide access to the memory cards of the first and second types in parallel to transfer data from the memory card of the first type to the memory card of the second type.**

B. **“accessible in parallel” (‘623 patent, cls. 1 and 9)/“to provide access to the memory cards of the first and second types in parallel” (Claim 17)**

TPL’s Proposal	Respondents’ Proposal
<p>Plain and ordinary meaning, no construction necessary.</p> <p>In the alternative, if construed:</p> <p>Accessible in parallel: “capable of concurrent read/write access”</p> <p>To provide access to the memory cards of the first and second types in parallel: “to provide the capability for concurrent read/write access between the two memory card types</p>	<p>Each transmitting or receiving data simultaneously at a given point in time.</p>

TPL believes that no construction is necessary, and states in their brief that the phrases mean what they say without the need of an explanation. (COB at 30.)

Respondents have a more complicated take on the meaning of the two phrases and lay out their views in their brief:

The parties dispute centers on two issues : (i) whether the first and second memory cards transmitting or receiving data are, in fact, accessible in parallel, or need only be capable of being accessible in parallel, and (ii) whether the memory cards need to be simultaneously read from or written to for parallel access to occur. Respondents' proposed construction correctly bounds the claimed invention to a system where the first and second memory cards *are* accessible in parallel, with each memory card transmitting or receiving data simultaneously at a given point in time. TPL proposes that the first and second memory cards need only be *capable of* read/write *access*, and need not be read from or written to at the same time for parallel access to occur.

(ROB at 76 (emphasis in original.) The ALJ finds that Respondents appear to err in their reading of the claim, by mistaking the term “accessible” as requiring that access occur in each and every instance. The ALJ finds that the phrase: “are accessible” does not require that each memory device is accessed each time; it merely requires that if the user wishes to access more than one at a time, the user may do so.

The '623 patent contains no requirement that each memory card in the invention be transmitting or receiving data simultaneously at a given point in time. The patent uses the word “simultaneously” only once, in the Background of Invention, and where it states: “What is clearly needed is a memory card jukebox that may be used to make a multitude of such memory/media cards available simultaneously, allowing a user to read and copy among them, etc., without having to manually shuffle them in and out of their readers.” ('623 Patent at 1:66-67, 2:1-3.) This language does not require that the cards function simultaneously, but rather that it be possible for them to be in their respective slots simultaneously, so the operator of the system can access them without taking them in and out.

Respondents attempt to build the case for this limitation through the prosecution history of the '623 Patent:

The prosecution history reinforces the '623 patent's focus on the first and second memory cards being accessible in parallel, with each card simultaneously transmitting or receiving data. In an Office Action mailed

March 5, 2004, the Patent Office rejected the '623 patent's claims, finding that prior art reference (U.S. Patent Publication No. 2002/0178307 to Pua ("Pua"), attached as Ex. 14) disclosed multiple memory cards accessible in parallel. (Ex. 11, '623 patent excerpted file history, at TPL000104.) In the Applicant's Response to this Office Action dated April 29, 2004, its sole argument to overcome this rejection was that, in Pua, "no more than one interface [i.e., memory card] can be *operative at a given point in time*." (*Id.* At TPL000121.)

(ROB at 77 (emphasis in the original).) This quotation from the prosecution history does not lead to the conclusion that the first and second memory card **must** operate at the same time. Rather, the applicant merely indicated that that they **can** operate at a given point in time. This option distinguishes the '623 Patent from the prior art reference Pua that was under consideration. Pua had multiple slots that could only be operated one at a time. The mere possibility that a device can do something does not mean that the device must do that thing. Thus, in order to accept Respondents' claim construction, the ALJ must read a limitation into the claim that is not found in the patent or in the prosecution history.

In another attempt to use prosecution history to bolster their claim construction proposal, Respondents refer to Takase for guidance as to what accessible in parallel means:

In an Office Action mailed August 23, 2004, the Examiner concluded that prior art reference (U.S. Patent No. 6,381,513 to Takase ("Takase")) taught memory cards accessible in parallel because one could "read, erase, and write data to the memory cards in parallel." (*Id.* at TPL000173.) In response to this Office Action, the Applicant **admitted** that this did indeed teach parallel access: "Takase discloses a system in which a plurality of memory cards of the same type may be accessed in parallel." (*Id.* at TPL000190.)

(ROB at 78.)

While the applicant agreed that the prior art teaches parallel access, Respondents again ignore that the prior art, as well as the '623 Patent, does not **require** that the memory cards be accessed simultaneously—it only requires that they "may be accessed in parallel". The words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary

skill in the art when read in the context of the specification and prosecution history. *See Phillips*, 415 F.3d at 1313. There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution. *Vitronics*, 90 F.3d at 1580. The standard for disavowal of claim scope is similarly exacting:

“Where the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside the reach of the claims of the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question.”

SciMed Life Sys., 242 F.3d at 1341. “The patentee may demonstrate intent to deviate from the ordinary and accustomed meaning of a claim term by including in the specification expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.” *Teleflex, Inc.*, 299 F.3d at 1325; *see also Home Diagnostics, Inc.*, 381 F.3d at 1358.

In this case, the prosecution history does not demonstrate that the patentee clearly abandoned a system that allowed the operator to access the memory devices one at a time, but covered only a system where more than one device was accessed simultaneously. The patentee also clearly did nothing in the patent that would suggest they were acting as their own lexicographer by establishing their own definitions of “may, can, or are accessible” to a meaning that requires accessing at the same point in time. Therefore, the ALJ finds that the terms “accessible in parallel” (’623 Patent at cls. 1 and 9) and to provide access...in parallel.” (claim 17) have their plain and ordinary meaning.

C. **“to transfer data from the memory card of the first type to the memory card of the second type” (’623 patent, cls. 1, 9, 17)**

TPL's Proposal	Respondents' Proposal
<p>Plain and ordinary meaning, no construction necessary.</p> <p>In the alternative, if construed, this term should only be construed to clarify that:</p> <p>Data read from a card of the first type is written to the card of a second type.</p>	<p>The data being transferred to the memory card of the second type comes directly from the memory card of the first type, rather than another source.</p>

TPL believes that no construction is necessary, and states in their brief that the phrases mean what they say without the need of an explanation:

This phrase is readily comprehensible and does not require construction. The plain and ordinary meaning of this phrase is apparent from the claim language. When a claim term or phrase will be readily comprehensible to the finder of fact, the term or phrase requires no construction. *See U.S. Surgical*, 103 F.3d at 1568 (Claim construction “is not an obligatory exercise in redundancy.”); *Certain Mobile Devices*, Inv. No. 337-TA-744, Order No. 6 at 37, 2011 WL at *27.

(COB at 27.) Respondents have a straight forward alternative for this term, stating that the word “directly” must be added to the claim terms because of express claim amendments and arguments made to the Patent Office in attempting to obtain allowance of the '623 Patent (ROB at 79.) Respondents cite several parts of the specification and the claims in an effort to support this position:

The '623 patent's claims and specification state that the memory cards transfer data directly to one another, rather than through another source. Claims 1, 9, and 17 all recite that the alleged invention “transfer[s] data from the memory card of the first type *to* the memory card of the second type.” (Ex. 6, '623 patent, Cl. 1, 9, 17 (emphasis added).) The specification describes that data is transferred directly between memory cards. (*See, e.g., id.* at 1:58-61 (“When the user sits at his computer, he may want to keep the [memory] cards in a device designed like a juke box, so he can...transfer files among them...”); *see also id.* at 1:66-2:3.)

(ROB at 79.)

While Respondents are correct in stating the claims state that the invention makes it possible to transfer data from a memory card of the first type to a memory card of a second type, the claims do not recite the limitation “directly”, and they are silent as to how the invention will accomplish that transfer, whether it is directly, or through other means. Claim 9 actually does include a controller circuit and a bus coupled to the controller circuit that allows the transfer of data from the cards. While the '623 Patent Figures show that the memory cards are connected by shared lines (ROB at 80), the Figures also show that the lines are connected to a controller (200) as evidenced in the figure reproduced below:

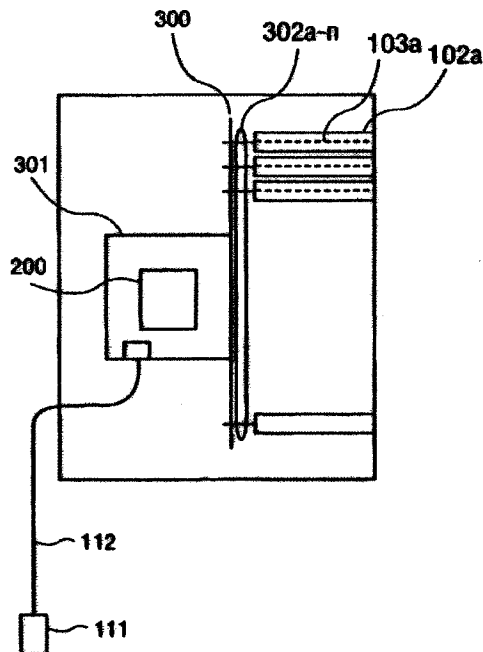


Figure 3 of the '623 Patent

Respondents also argue that the patentee abandoned a system that did not require the two types of cards to transfer data directly to each other, in order to get the claims allowed in light of the prior art patents of Pua and Takase. However, as in the earlier claim construction, Pua was distinguished by not being able to access more than one memory card at a time.

because it taught transferring data between memory cards of the same type, not different types.

Resp. Ex. 11; TPL000190:

Takase describes a system in which a plurality of memory cards of the same type may be accessed in parallel. For example, see columns 15 and 16. However, Takase fails to teach or suggest that a memory card of the first type and a memory card of a second type may be accessed in parallel.

Pua (US 2002/0178307) describes a system which provides serial access to a number of memory cards of different types (see paragraph 37, column 2). However, Pua does not teach or suggest that a memory card of a first type and a memory card of a second type may be accessible in parallel.

Thus, the combination of Takase and Pua would provide a system in which there would be parallel access for memory cards of the same type, and serial access for memory cards of different types. The combination of Takase and Pua would still fail to teach or suggest that a memory card of the first type and a memory card of the second type may be access in parallel, as recited in claim 1.

There appears to be nothing in the file history that would demonstrate that the patentee abandoned any embodiment of the invention that did not transfer data directly from memory card of one type to a memory card of a different type. The amendment allowed a transfer of data from a first memory card to a second using indirect means:

1. (Currently Amended) A memory card interface apparatus comprising: a plurality of memory card interfaces comprising:
a first subset to interface with a memory card of a first type and a second subset to interface with a memory card of a second type, wherein the memory card of the first type and the memory card of the second type are accessible in parallel to transfer data from the memory card of the first type to the memory card of the second type.

10. (Currently Amended) A system comprising:

a controller circuit;

a bus coupled to the controller circuit;

a plurality of memory card interfaces comprising a first subset to interface with a memory card of a first type and a second subset to interface with a memory card of a second type, wherein the memory card of the first type and the memory card of the second type are accessible in parallel to transfer data from the memory card of the first type to the memory card of the second type. TPL000229-TPL00023

Resp. Ex. 11; TPL000190

Once more, there is no clear disavowal of a system that does the transfer indirectly, and no specific language that would require it to be done only by a direct transfer.

There is nothing in the '623 patent that would lead a person of ordinary skill in the art to believe that the patentee was acting as his own lexicographer, nor is there anything in the prosecution history that would amount to a disavowal of any embodiment that did not directly transfer the data from one first type of memory card to one of the second type.

In examining the '623 patent the specification contains language that indicates that the patentee did not abandon all embodiments that did not directly transfer data from one memory card to another of a second type. From Column 3 line 65 through column 5 line 16 of the '632 Patent, the specification discusses a number of embodiments and ways of using the invention that would not require the direct communication of a memory card of a first type with one of a second type:

FIG. 2 illustrates a diagram of controller 200, in accordance with one embodiment. In one embodiment, the controller 200 is implemented and includes the techniques and

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specifications as disclosed in co-pending U.S. application Ser. No. 10/167,929, which was filed on Jun. 11, 2002, entitled “Smartconnect Universal Flash Media Card Adapters”, which is incorporated herein by reference.

- 5 As illustrated in FIG. 2, USB connector 111 connects controller 200 to the host computer. In addition to a standard bus 201 for controlling the slots 102a–n, controller 200 has a multitude of multiplexed control lines 202a–n. In one embodiment, the lines 202a–n address multiplexors, or
- 10 transfer buffers, 220a–n, which in one embodiment may turn on/off selected control lines 212a–n and/or data lines 211a–n to activate/deactivate or communicate data with the flash media in each respective slot(s).

This language from the ‘623 patent discloses the use of a host computer, and bus for controlling the slots. There is no language that places a restriction that neither the computer nor the transfer buffers can be used to transfer information from a memory card of a first type to a memory card of a second type. A person of ordinary skill in the art would know that the transfer buffers can communicate data with the flash media in each respective slot, and conclude that these media do not have to communicate directly, but can do so through the buffers.

Further, in column 4, lines 31-37 the patent describes an embodiment that does not need buffers, but uses chip select signals to activate and deactivate the various cards, or multi-tiered bus lines:

In alternative embodiments, if the unit has only a small number of slots, buffers may not be needed and only chip select signals may be used to activate and deactivate the various cards. In yet other cases, multi-tiered bus lines may

35 be used. For example, a unit with 100 slots may use five segments with 20 slots each, and an additional layer of buffers must be introduced in a hierarchical wiring scheme.

In column 5, lines 16-27, the '623 Patent additionally describes using a small computers system interface command set to help perform the tasks for which the invention is designed:

ing from the scope of the invention.

In one embodiment, to assist in providing compatibility with the Operating Systems and the driver stack, a jukebox with display capabilities will report itself as a Mass Storage Device on LUN (Logical Unit) 0 with 0 LUNs and a Simple Display Device on LUN 1. Application software issues inquiry command with LUN 0 and then LUN 1 and a jukebox with display capabilit. ie ans would respond with success to both the LUNs whereas a jukebox without would only respond to LUN 0. Alternative encodings may be implemented without departing from the scope of the invention.

Based on the absence of clear language that disavowed embodiments where the memory cards did not communicate directly, and the specification, the intrinsic evidence requires the ALJ to reject the proposed claim construction offered by Respondents. Therefore, the ALJ finds that the claim terms **“to transfer data from the memory card of the first type to the memory card of the second type”** shall have their plain and ordinary meaning. The plain and ordinary meaning of this phrase is apparent from the claim language. When a claim term or phrase will be readily comprehensible to the finder of fact, the term or phrase requires no construction. *See U.S. Surgical*, 103 F.3d at 1568 (claim construction “is not an obligatory exercise in redundancy.”).

VI. THE '549 PATENT

A. Background and the Claims

U.S. Patent No. 7,162,549 (“the '549 Patent”) is entitled “Multimode Controller for Intelligent and "Dumb" Flash Cards.” The '549 Patent issued on January 9, 2007. The named inventors are Sreenath Mambakkam, Larry Jones, Arockiyaswamy Venkidu, and Nicholas Antonopoulos. TPL asserted claims 7, 11, 19 and 21. Claims 7 and 11 are independent claims

and claims 19 and 21 depend on claims 7 and 11, respectively. The asserted claims are (with disputed terms in bold):

7. A method comprising:

using a controller chip to interface a flash storage system with or without a controller to a computing device, the controller chip comprising a **flash adapter**, wherein the flash storage system comprises a flash section and at least a medium ID;

determining whether the flash storage system includes a controller for error correction; and

in an event where the flash storage system does not have a controller for error correction, using firmware in the flash adapter to perform operations to manage error correction of the flash section, including bad block mapping of the flash section in the flash storage system that is coupled to the **flash adapter section**.

11. A system comprising:

a computing device;

a flash storage system comprising a flash section and at least a portion of a medium ID; and

a controller chip coupled between the computing device and the flash storage system to interface the flash storage system to the computing device, the controller chip comprising an interface mechanism capable of receiving flash storage systems with controller and controllerless flash storage systems, a detector to determine whether the flash storage system includes a controller for error correction and a **flash adapter** which comprises firmware to perform, in an event where the flash storage system does not have a controller for error correction, operations to manage error correction of the flash section, including bad block mapping of the flash section in the flash storage system that is coupled to the **flash adapter section**.

19. The method of claim 7, wherein the flash adapter further comprises a plurality of interfaces for receiving a plurality of flash storage systems.

21. The system of claim 11, wherein the flash adapter further comprises a plurality of interfaces for receiving a plurality of flash storage systems.

B. “adapter” (claims 7, 11; ‘443 Patent claims 1, 9)

TPL’s Construction	Respondents’ Construction
TPL refers to its proposals on “multi-memory media adapter” and “flash adapter”/ “flash adapter section”	A device for electrically and physically connecting parts that will not mate.

TPL argues that Respondents attempts to construe “adapter” in isolation should be rejected. (COB at 9.) TPL argues that a “multi-memory media adapter” and a “flash adapter”/ “flash adapter section” are two different types of adapters and that any attempts to give them the same meaning would be improper and contrary to the intrinsic evidence.

Respondents argue that its proposed construction is plain meaning and is consistent with the specification and the prosecution history. (ROB at 66-72.)

The ALJ finds that the term “adapter” need not be construed in isolation. First, Respondents have failed to explain or cite to any supporting authority that would allow the ALJ to construe a single claim term to have identical meanings for patents directed at two completely different inventions. According to Respondents, the ‘443 Patent is directed at “how a single, shared set of pins in a memory card reader’s slot can be used by different types of memory cards” (ROB at 4) whereas the ‘549 Patent is directed to “error correction in memory cards and, in particular, a controller chip that makes a determination as to whether the particular type of memory card inserted into the reader includes a specific controller for error correction.” (ROB at 6.) Respondents have presented no reason to the ALJ as to why these two unrelated patents that do not even share the same specification or any other sort of familial relationship should have a single divorced claim term be construed in exactly the same manner. Absent a good reason for doing or any cited relevant authority, the ALJ declines such an exercise.

Second, turning to the ‘549 Patent specifically, the ALJ finds that Respondents have failed to cite to any evidence to support their proposal that “adapter” be construed in isolation

and separate and apart from the phrase “flash adapter”. All of the claims of the ‘549 Patent, both asserted and unasserted, claim a “flash adapter”—there is no use of the term “adapter” in isolation. Furthermore, Respondents have proposed a claim construction for the claim terms “flash adapter,” which fails incorporate Respondents’ proposed construction for “adapter” in isolation. In other words, the construction of “adapter” was not crucial for Respondents’ construction of “flash adapter.” As there is no use of the claim term “adapter” in isolation in any of the claims of the ‘549 Patent (or the ‘443 Patent), the ALJ declines to construe the claim term. *Vanderlande Indus.*, 366 F.3d at 1323 (only claim terms in controversy need to be construed and only to the extent necessary to resolve the controversy); *Vivid Tech.*, 200 F.3d at 803.

Respondent also argue that “uses of the word ‘adapter’ are far too numerous to list exhaustively...” (ROB at 67.) However, this appears to be in reference to the specification and, based on Respondents’ own cited example, the use of the word “adapter” is never used in complete isolation, *i.e.* there is some descriptive adjective (“Memory Stick adapter”) or there is some contextual meaning provided. (*See generally* the ‘549 Patent specification.)

Therefore, the ALJ declines to construe “adapter” in isolation. To the extent that the ALJ declines to construe “adapter” separately from “flash adapter”/ “flash adapter section”, TPL’s arguments related to the construction of “multi-memory media adapter” are moot. Respondents’ proposed construction for “multi-memory media adapter” was subsumed within Respondents’ assertion that “adapter” should be construed in isolation. As set forth above, the ALJ has declined to construe that claim term in isolation.

C. “flash adapter”

TPL’s Construction	Respondents’ Construction
“flash adapter section” or “a section of the controller chip that enables communication with the flash storage system”	An adapter having an opening to accept a flash storage system.

TPL argues that one of ordinary skill in the art reading the claims as a whole would interpret “flash adapter” as the implicit antecedent basis for “flash adapter section.” (COB at 7.) TPL further argues that “flash adapter section” means “a section of the controller chip that enables communication with the flash storage system.” (COB at 8.) Hence, TPL argues that “flash adapter” means “a section of the controller chip that enables communication with the flash storage system.”

Respondents argue that “flash adapter” means “an adapter having an opening to accept a flash storage system.” (ROB at 68.) Respondents argue that the specification is consistent with their plain-meaning construction. (ROB at 69.) Respondents further argue that TPL’s construction contradicts the plain-meaning of the term and the prosecution history. (ROB at 70-71.) Thus, Respondents also argue that “flash adapter section” is indefinite without prior antecedent basis. (ROB at 72-73.)

The ALJ finds that “flash adapter” means “a section of the controller chip that enables communication with the flash storage system.” A skilled artisan reading the claims as a whole in light of the specification would adopt this construction. The claim language strongly supports this conclusion. Claims 7 and 11 describe a controller chip that comprises a “flash adapter.” (’549 Patent at Claims 7 and 11.) The ALJ finds that one of ordinary skill would understand that when a controller chip comprises a “flash adapter,” as described in the claims, the nature reading of that language is that a section or part of the controller chip is a “flash adapter.”

Another limitation in Claim 7 further supports this construction. Claim 7 describes “firmware in the flash adapter” that performs specific operations. (’549 Patent at Claim 7.) Respondents’ construction attempts to limit the scope of “flash adapter” to a device with an opening for connecting the flash storage system, but a skilled artisan reading in the claim that the flash adapter includes firmware would understand that the “flash adapter” is not limited to a plug or something with a physical opening. This plain reading of the claim language is consistent with the specification, which explains that the firmware in the flash adapter allows for transparent use of the flash. (’549 Patent at 28:67-29:1.) Thus, the firmware of the flash adapter is used to enable communication with the flash storage system.

An additional limitation in claim 11 further supports this construction. System claim 11 describes a controller chip that comprises “an interface mechanism capable of receiving flash storage systems,” a “detector,” and a “flash adapter.” (’549 Patent at Claim 11.) Respondents’ construction would render “an interface mechanism capable of receiving flash storage systems” duplicative, and thereby effectively render the “interface mechanism” element meaningless. The general assumption is that different terms have different meanings. *Symantec Corp. v. Computer Associates Int’l, Inc.*, 522 F.3d 1279, 1289 (Fed. Cir. 2008). The ALJ finds no meaningful difference between an “interface mechanism capable of receiving flash storage systems” and an “adapter having an opening to accept a flash storage system.” If “an interface mechanism capable of receiving flash storage systems” is construed to mean the same thing as a “flash adapter,” then the “interface mechanism” element is meaningless. The same problem does not arise by construing “flash adapter” to mean “flash adapter section” because both terms refer to the same element. Therefore, the Respondents’ construction is inconsistent with a reading of the claims that gives different meanings to different terms.

The ALJ finds Respondents' other claim construction arguments unpersuasive. Respondents argue that because the specification describes several adapters that have openings, the "flash adapter" in claims 7 and 11 must also have an opening. (ROB 69-70.) However, nothing in the specification limits all adapters to Respondents' narrow meaning. The specification does not use the term "flash adapter" in a way that suggests it is the same as the adapters referenced by Respondents. The ALJ finds that the "flash adapter" in claims 7 and 11 is different from the adapters referenced by Respondents because the "flash adapter" in the claims is part of a controller chip. Unless the Applicants clearly disavow claim scope in the specification, the patentee is entitled to the full scope of the claim language. *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d at 1366. Thus, it would be inappropriate to conclude that the "flash adapter" described in claims 7 and 11 also must necessarily have an opening.

Respondents further rely on a dictionary to discern the plain-meaning of "adapter," and then use that to limit the meaning of "flash adapter." (ROB at 69.) As set forth in the previous section, the ALJ declined to construe the term "adapter" in isolation and any attempts by Respondents to use the construction of "adapter" to limit "flash adapter" are rejected. Moreover, even if the ALJ had construed "adapter," it would not serve to limit "flash adapter" as proposed by Respondents. Dictionaries can be a valuable tool for finding the generally accepted meaning of a term, but they should not be used to contradict any definition ascertained by reading the patent documents. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005). An over-reliance on dictionaries, even technical dictionaries, can lead to absurd results. *Id.* at 1322. A claim should not rise or fall based upon the preferences of a particular dictionary editor. *Id.* Properly viewed, the "ordinary meaning" of a claim term is its meaning to the ordinary artisan after reading the entire patent. *Id.* at 1321. A skilled artisan reading the claims as a whole would

find a contradictory definition of “flash adapter” in the claims. Thus, Respondents’ argument that their construction is consistent with the plain-meaning of “flash adapter” is unpersuasive.

Respondents further argue that the prosecution history contradicts TPL’s construction. (ROB at 71-72.) However, the prosecution history is ambiguous and inconclusive. While the Applicants did change the claims and direct the invention from a controller chip to a flash adapter, and then back to a controller chip, the Applicants never expressly limited the scope of the term “flash adapter.” The prosecution disclaimer doctrine will not apply unless the Applicants clearly and unambiguously disclaimed meaning during prosecution. *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1324 (Fed. Cir. 2003). Respondents cannot point to any clear and unambiguous statements made by the Applicants during prosecution that supports their construction. While the Examiner made some statements regarding his understanding of the claim scope, the Applicants never adopted them. Moreover, later actions suggest the Examiner abandoned his previous position. *See DeMarini Sports, Inc. v. Worth, Inc.*, 239 F.3d 1314, 1326 (Fed. Cir. 2001). Thus, the ALJ finds that TPL’s construction does not contradict the prosecution history.

Therefore, the ALJ finds that “flash adapter” means “a section of the controller chip that enables communication with the flash storage system.”

D. “flash adapter section”


TPL’s Construction	Respondents’ Construction
a section of the controller chip that enables communication with the flash storage system	This term is indefinite. No “flash adapter section” was recited previously.

TPL argues that “flash adapter section” means “a section of the controller chip that enables communication with the flash storage system.” (COB at 8.) TPL further argues that “flash adapter” is the implicit antecedent basis for “flash adapter section.” (COB at 7.)

Respondents argue that because “flash adapter section” is not recited previously, it is indefinite. (ROB at 72-73.) Respondents further argue that antecedent basis for “flash adapter section” is not present by implication and the meaning of “flash adapter section” is not reasonably ascertainable. (ROB at 73-74.)

The ALJ finds that one of ordinary skill in the art would understand that “flash adapter” is the antecedent basis of “flash adapter section.” If the scope of a claim would reasonably be ascertained by those skilled in the art, then the claim is not indefinite, and the antecedent basis can be implicit. *Energizer Holdings, Inc. v. Int’l Trade Comm’n*, 435 F.3d 1366, 1370 (Fed. Cir. 2006). Claims 7 and 11 both describe a controller chip that comprises a “flash adapter” and a flash storage system coupled to the “flash adapter section.” The ALJ finds that one of ordinary skill in the art would reasonably ascertain that “flash adapter section” refers to the same “flash adapter” that is a section of the controller chip. Accordingly, the term is not indefinite.

SO ORDERED.



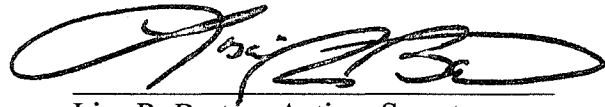
Theodore R. Essex
Administrative Law Judge

**CERTAIN COMPUTERS AND COMPUTER PERIPHERAL
DEVICES AND COMPONENTS THEREOF AND
PRODUCTS CONTAINING THE SAME**

Inv. No. 337-TA-841

PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **ORDER** has been served upon the following parties as indicated on **October 5, 2012**.



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**CERTAIN COMPUTERS AND COMPUTER PERIPHERAL
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Inv. No. 337-TA-841

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